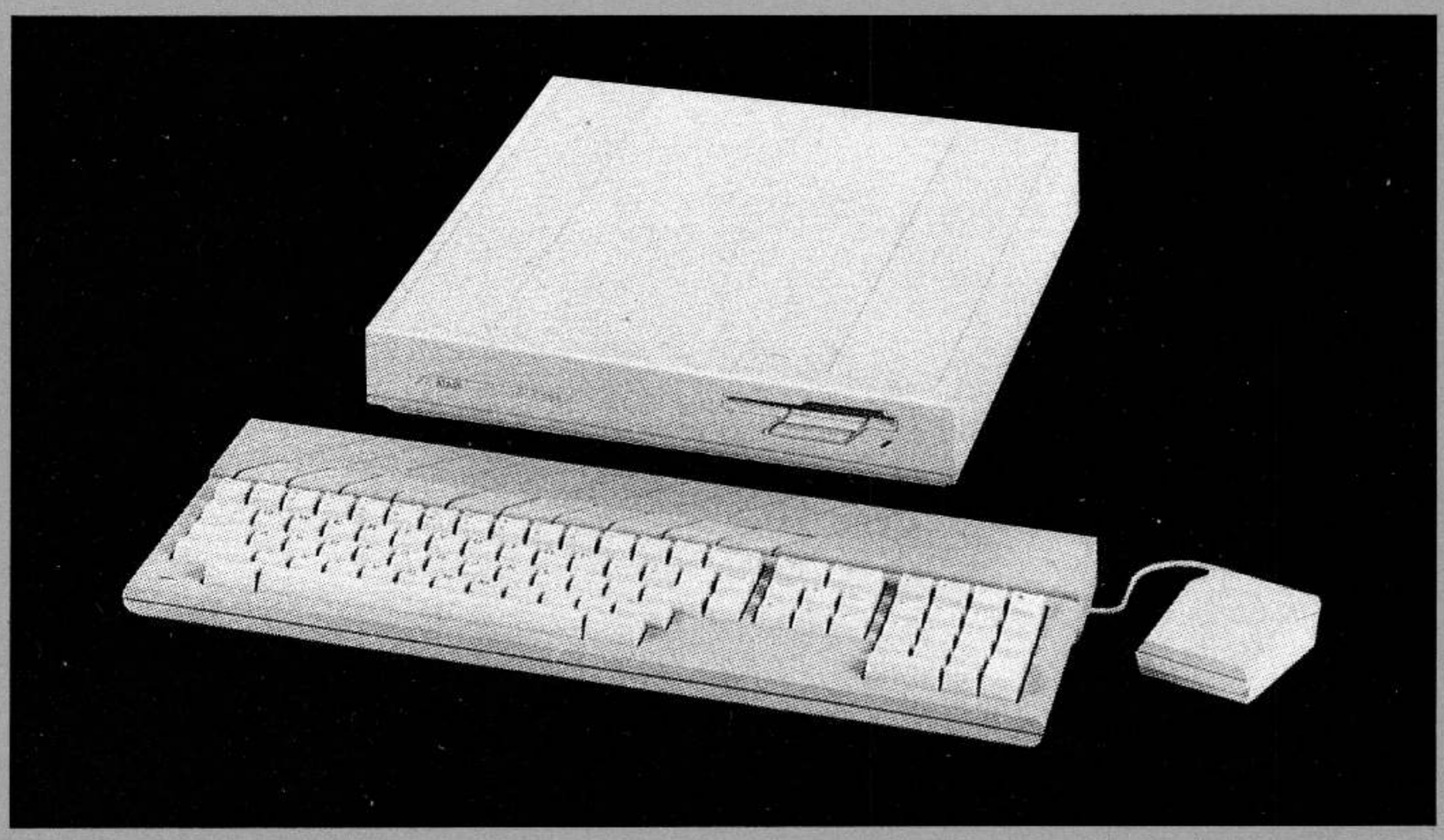
ATARI®

MEGA ST™
Computer



Owner's Manual

IMPORTANT INFORMATION

Like any electrical appliance, the ATARI MEGA ST Computer uses and produces radio-frequency energy. If not installed and used according to the instructions in this manual, the equipment may cause interference with your radio and TV reception.

If you believe that this equipment is causing interference with your radio or TV reception, try switching the equipment off and on. If the interference problem stops when the equipment is switched off, then the equipment is probably causing the interference. You may be able to correct the problem by trying one or more of the following measures:

- Adjust the position of the radio or TV antenna.
- Reposition the equipment in relation to the radio or television.
- Move the equipment away from the radio or television.
- Plug the equipment into a different wall outlet so that the equipment and the radio or television are connected to different branch circuits.

If necessary, consult your ATARI Computer retailer or an experienced radio-television technician for additional suggestions.

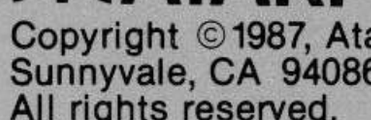
A resource that you may find helpful is a booklet prepared by the Federal Communications Commission: *How to Identify and Resolve Radio-TV Interference Problems*. This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

WARNING: This equipment has been certified to comply with the limits for a Class B computing device, pursuant to Subpart J of Part 15 of the FCC rules. Those rules are designed to provide reasonable protection from interference when the equipment is used in a residential setting. However, there is no guarantee that interference will not occur in a particular home or residence. Only peripherals (computer input/output devices—terminals, printers, etc.) that have been certified to comply with the Class B limits may be attached to this computer. Operation of noncertified peripherals with this computer is likely to result in interference with radio and TV reception. Shielded cables should be used on all I/O connectors (except the joystick and mouse connectors); otherwise, radio emissions may exceed Class B limits.

Every effort has been made to ensure the accuracy of the product documentation in this manual. However, because Atari Corporation is constantly improving and updating its computer hardware and software, it is unable to guarantee the accuracy of printed material after the date of publication and disclaims liability for changes, errors, or omissions.

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ATARI®

MEGA ST™

Computer

Owner's Manual

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INTRODUCTION

Welcome to the ATARI MEGA ST Computer

The MEGA ST Computer system is the newest generation of ATARI ST™ Computers. While remaining compatible with all previous systems, the MEGA ST offers additional features that increase its power, speed, and expandability:

- Enhanced memory—one, two, or four megabytes of directly addressable RAM, depending on the model—gives the MEGA ST the capacity to handle the most complex word-processing tasks or the most detailed spreadsheet procedures.
- A Blitter chip produces faster graphics operation both on the desktop and in graphics applications.
- An internal expansion connector direct to the computer's main processing unit allows for future expansion of the MEGA ST's capabilities.
- A real-time clock keeps the date and time continuously, with or without power to the computer, so your files are always correctly dated.
- The built-in ATARI MicroFloppy Disk Drive stores up to 357,376 (single-sided) or 726,016 (double-sided) bytes of information on each disk. The addition of an external floppy disk drive or a hard disk can increase the computer's memory capacity even further.
- The detached keyboard and stackable monitor make the MEGA ST an attractive as well as practical system for home or business use.

The MEGA ST combines the latest microcomputer technology with an easy-to-use working environment. The computer's operating system, TOS™, is permanently installed in memory, and includes GEM™, the powerful Graphics Environment Manager. Computer operations are represented by pictures and words on the screen; to operate your computer, you select items on screen using the mouse, and activate them by pressing a mouse button. Your MEGA ST communicates with you through dialog boxes, asking questions in order to complete an operation or warning you of possible errors before they happen.

In addition, the MEGA ST offers a complete palette of 512 colors; low, medium, and high-resolution screen modes; an 80-column display; and expansive memory and disk storage. The ease of adding peripherals such as a hard disk, modem, parallel or serial printer, and music synthesizer greatly enhances the MEGA ST Computer's potential for new and exciting uses.

Using This Manual

Operating your MEGA ST is easy, and you'll get maximum results from your computer if you operate it correctly from the start. This manual explains how to do that in clear, non-technical language that computer novices as well as seasoned users can understand. After you become familiar with your computer, use this manual as a reference guide to individual procedures and specific information.

It is essential that you make a backup copy of the disk supplied with your MEGA ST Computer. (See **Copying a Disk** in **Chapter 2** for instructions.) Having a backup copy of the disk safeguards you from accidentally losing or damaging the contents of your original disk. Once you make the copy, use it as your working disk and safely store the original.

MEGA ST Computer owners living in the United Kingdom should refer to **Appendix E** for additional instructions when connecting their system.

This manual's chapters are designed to be read in sequence, proceeding in order from connecting your computer system, to a thorough explanation of system operation, and finally to advanced features. A summary of each manual section follows:

Chapter 1: Getting Started familiarizes you with the components of the MEGA ST Computer system. It explains how to unpack the computer and connect the system, and surveys the major features and available options.

Chapter 2: ST Computer System Overview explains how the computer works, then introduces you to the GEM desktop and describes how to use it. The chapter includes instructions for write-protecting, copying, and formatting microfloppy disks.

Chapter 3: Icons, Windows, Files, and Folders explains how to manage information, both on screen and on disk, using the GEM desktop.

Chapter 4: The Menu Bar describes all menu bar headings and the options they provide, and thoroughly explains how to use them.

Chapter 5: Desk Accessories explains how to use the special applications available from the Desk menu.

Chapter 6: Advanced GEM Features describes the procedures for using special features that make working with your computer easier and more efficient.

Appendix A: Mouse Pointer Control Quick Reference is a chart describing mouse pointer actions and listing the ways to achieve them using either the mouse or keyboard. You can copy this chart and keep it near your system for quick reference.

Appendix B: Troubleshooting and Preventive Maintenance offers solutions to problems you may encounter while connecting or operating your MEGA ST Computer. The appendix includes guidelines for proper maintenance of your computer system.

Appendix C: MEGA ST Computer Specifications summarizes the major features and requirements of the computer.

Appendix D: Connector Pinout Specifications shows the pin assignments of the MEGA ST Computer ports.

Appendix E: Connecting a Three-Pin Plug to the Mains Lead provides additional set-up instructions for MEGA ST Computer owners in the United Kingdom.

Glossary defines common technical terms used in this manual as they relate to the MEGA ST Computer.

Index helps you locate terms and procedures used or explained in the manual.

Customer Support tells you where to find more information about the ATARI MEGA ST Computer and ATARI Computer products.

Paragraphs marked **Note**, **Warning**, or **Reminder** appear throughout the manual. Notes contain useful hints and other information relevant to the topic being discussed. Warnings alert you to potential problems and suggest ways to avoid them. Reminders repeat information from other sections that is important to the topic at hand.

CHAPTER 1
GETTING STARTED

Connecting the MEGA ST Computer System

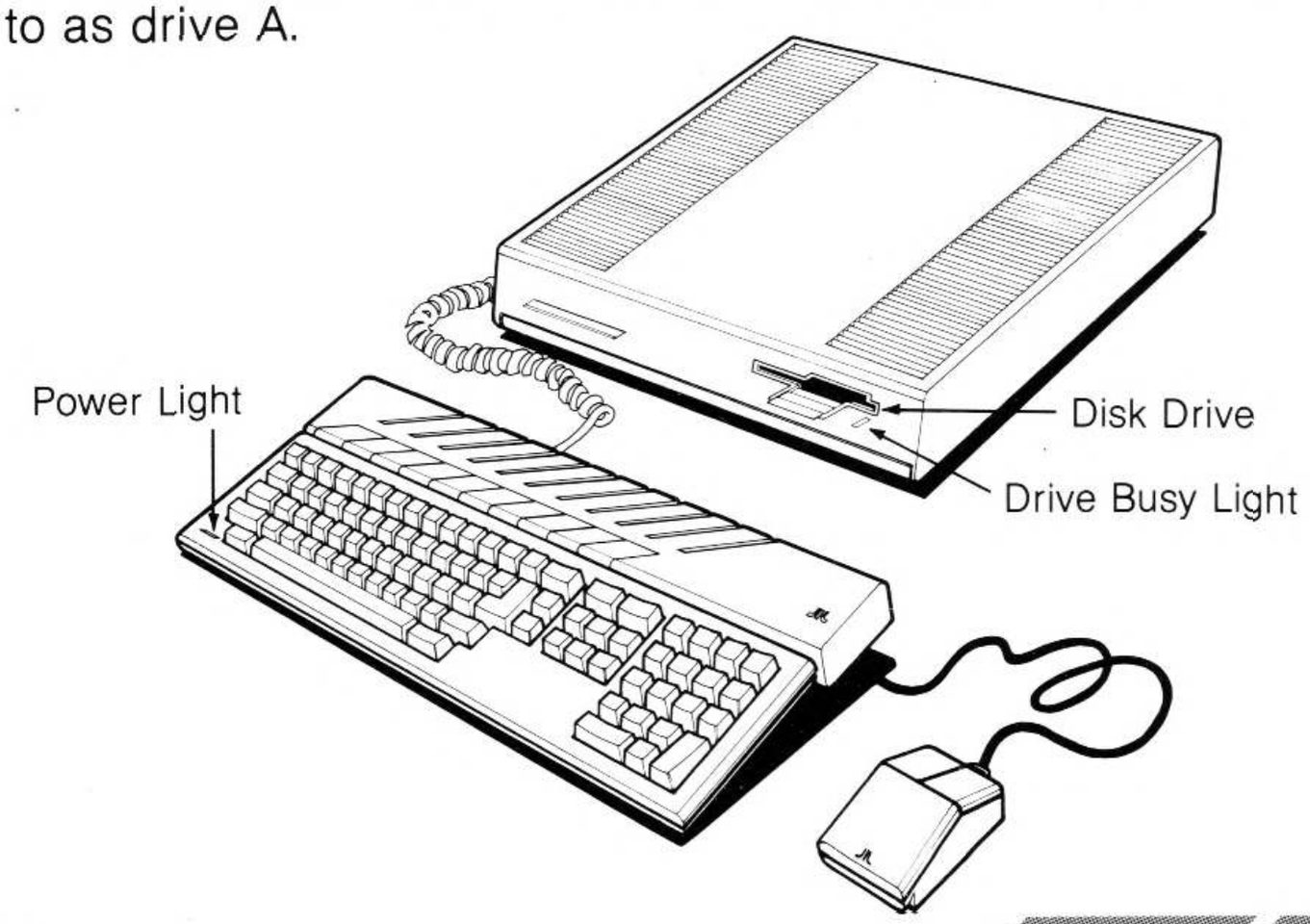
Your MEGA ST Computer system contains sophisticated electronic equipment which must be located in a proper working environment. When setting up your system, choose a place that would also be suitable for a stereo system or television. Allow adequate room for airflow around the fan vents on the top and back panels of the computer. Avoid locations that expose the components to dust, grease, extreme temperatures, direct sunlight, or high humidity.

Carefully lift the computer and keyboard out of the packing carton. Remove the packing materials and place the components on a firm, level surface. (Save all packing materials for shipping and storing your computer.) Then follow the instructions in this chapter for connecting your system.

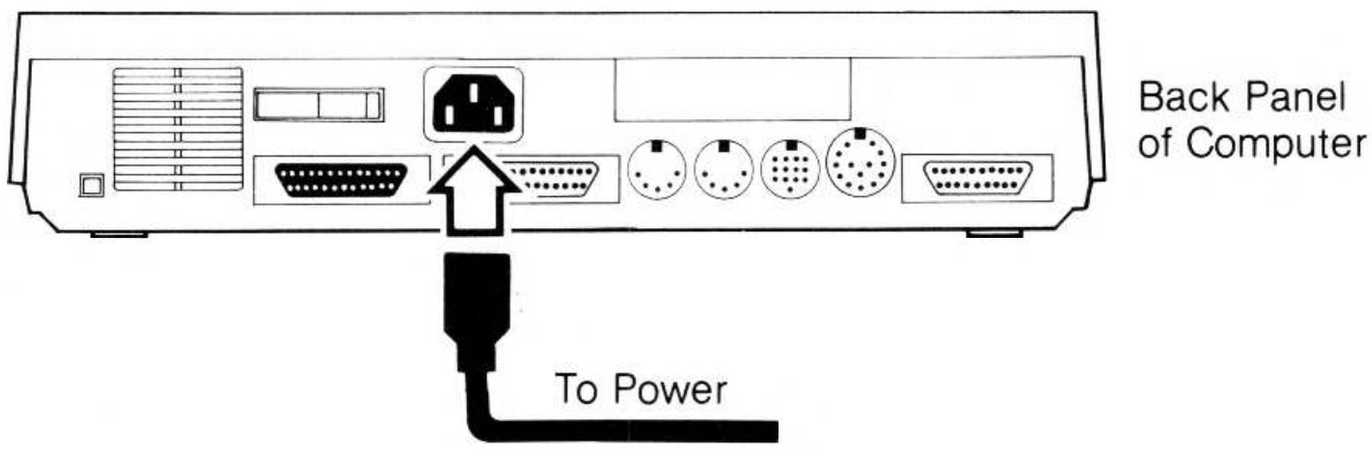
Note: See **Appendix B: Troubleshooting and Preventive Maintenance** for information on ST Computer system maintenance.

Computer and Disk Drive

Your MEGA ST Computer includes a built-in microfloppy disk drive. Depending on your computer, this drive will either be single-sided or double-sided. The disk drive is your primary means of storing and retrieving information with your computer. It is always referred to as drive A.



Make sure your computer is switched off and you've removed the protective insert from inside the disk drive. Plug one end of the power cable into the jack marked "Power" on the back panel of your computer. Then plug the cable's three-pronged plug into a grounded wall outlet or power strip.

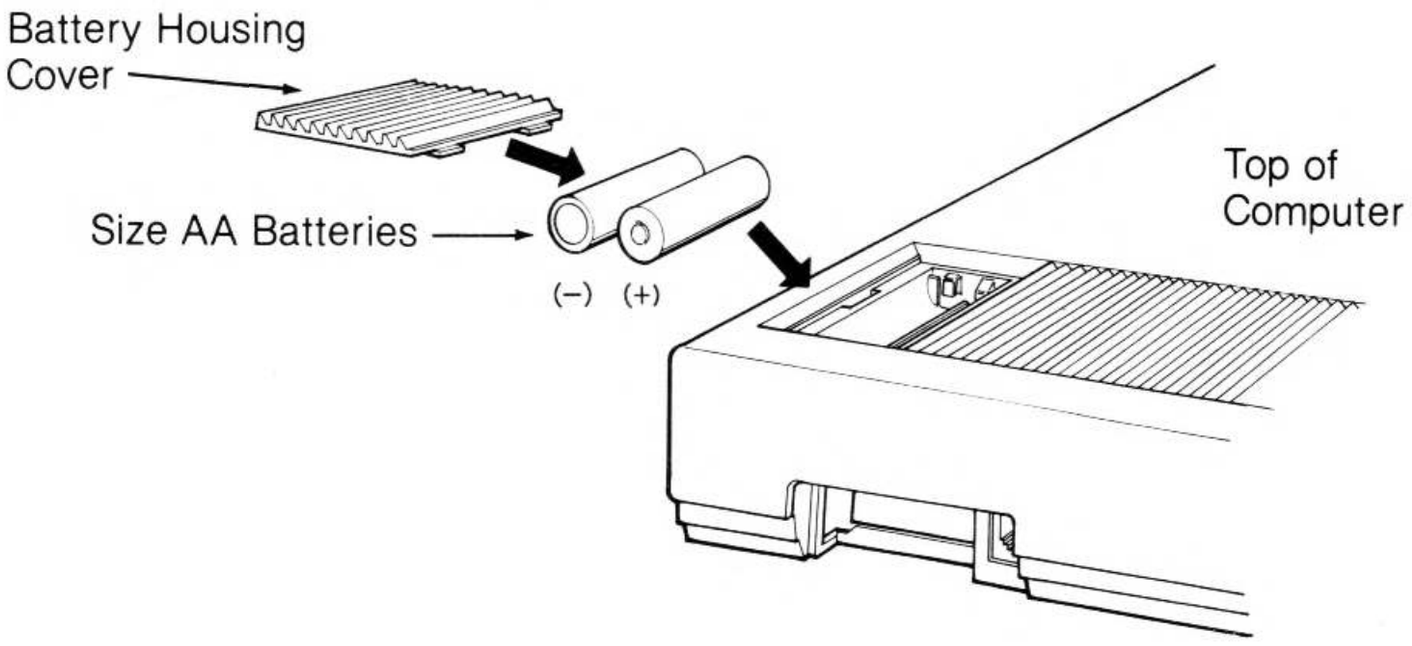


Connecting the power cable to your computer also provides power to your disk drive. When the light on the computer's keyboard is illuminated, power to the computer and drive is switched on. When the drive is busy storing or retrieving data, the light alongside the drive illuminates and the drive whirs.

Clock Batteries

Your MEGA ST Computer contains a real-time clock that can maintain the time and date even while your computer is switched off. The clock requires two size AA batteries that fit into the battery housing on the top of the computer at the rear of the left fan vent.

To install the batteries, remove the cover of the battery housing by pressing on it and pulling it towards the front of the computer. Place the batteries in the battery slots, being sure to align the positive (+) and negative (–) ends of the batteries with the markings on the slots. Then set the cover back in place. Pull it forward, then push it down and back, to lock it in position.

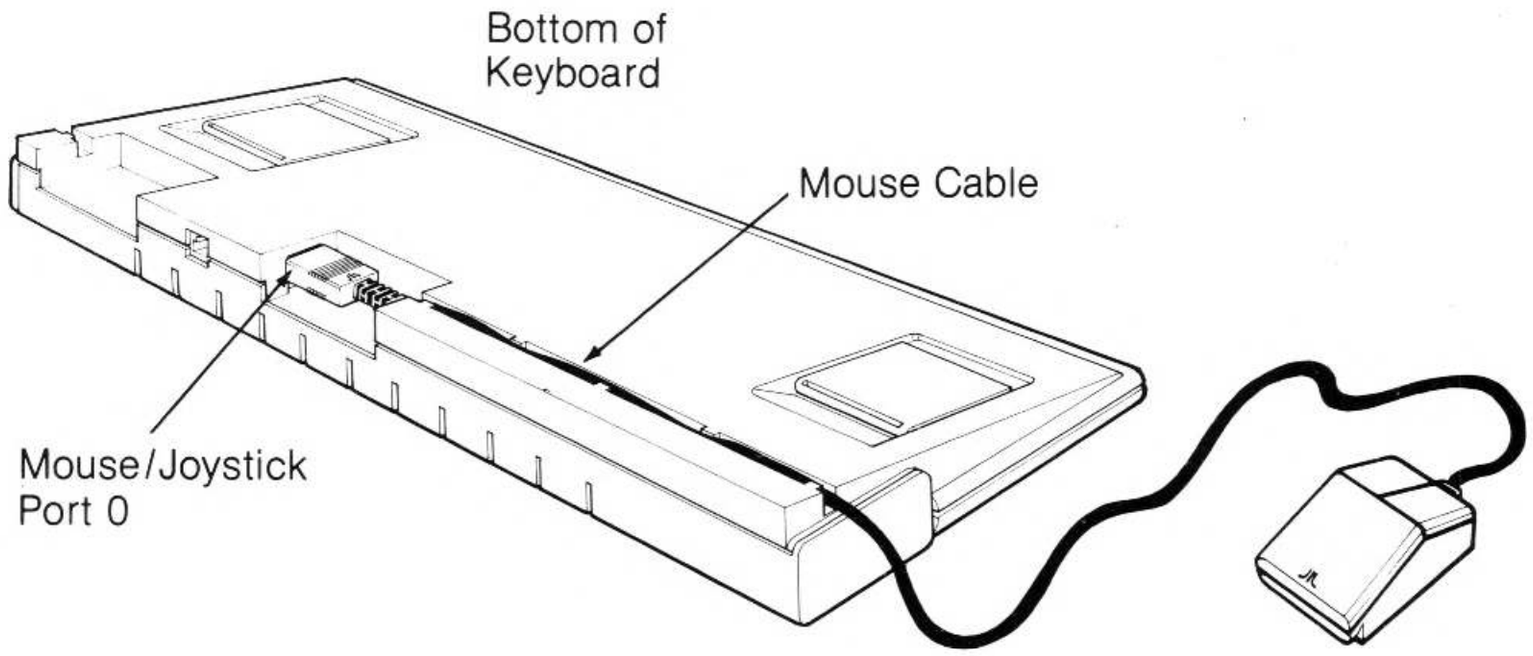


Note: If you don't have batteries available when you first connect the system, they can be installed later.

Mouse

The mouse is a hand-held device that connects to your MEGA ST Computer keyboard with a cable. By rolling the mouse on a tabletop and pressing the mouse buttons, you can control your computer.

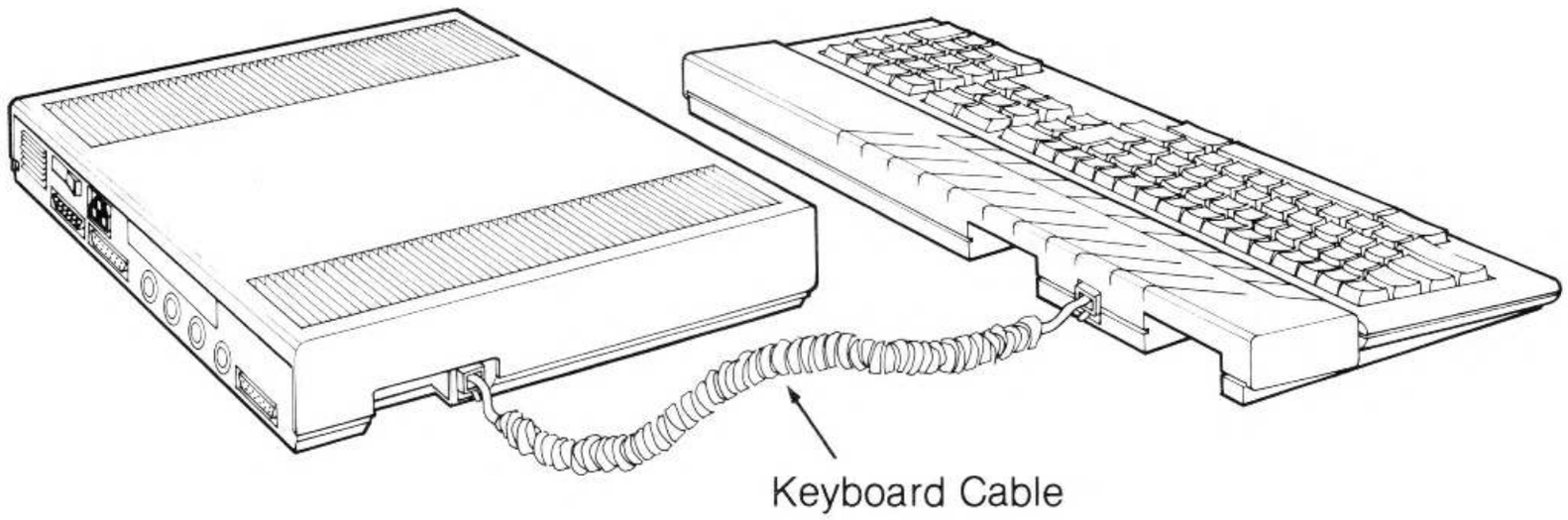
To connect the mouse, turn the keyboard upside down. Insert the plug at the end of the mouse cable into mouse/joystick port 0 on the bottom of the keyboard. If you like, press the cable into the channel on the bottom of the keyboard, securing it with the cable grips. Remove the protective strip on the bottom of the mouse that holds the roller in place.



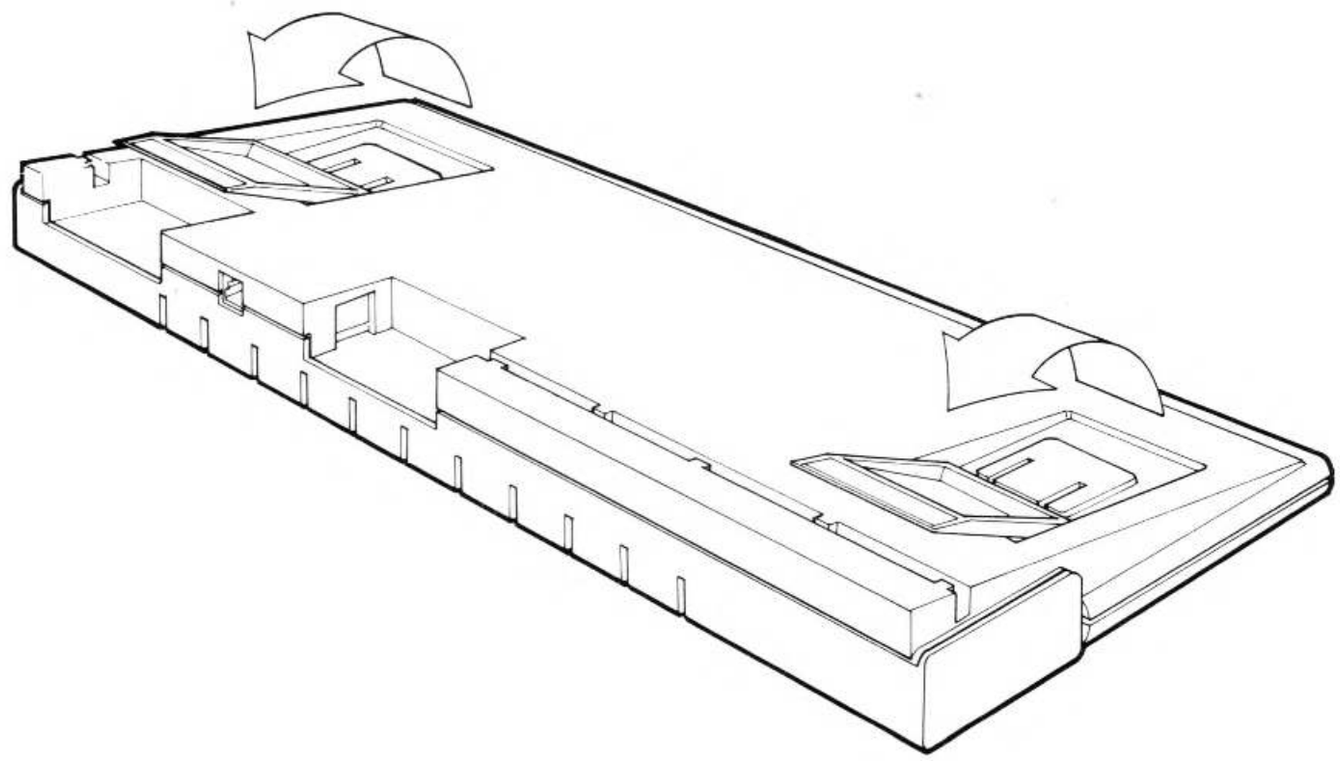
Keyboard

Much of what you will do with your computer will involve using keys on the computer keyboard. The keyboard also houses the mouse and joystick ports.

To connect the keyboard, plug one end of the keyboard cable into the keyboard jack on the left side panel of your computer. Plug the other end into the matching jack on the back of the keyboard.



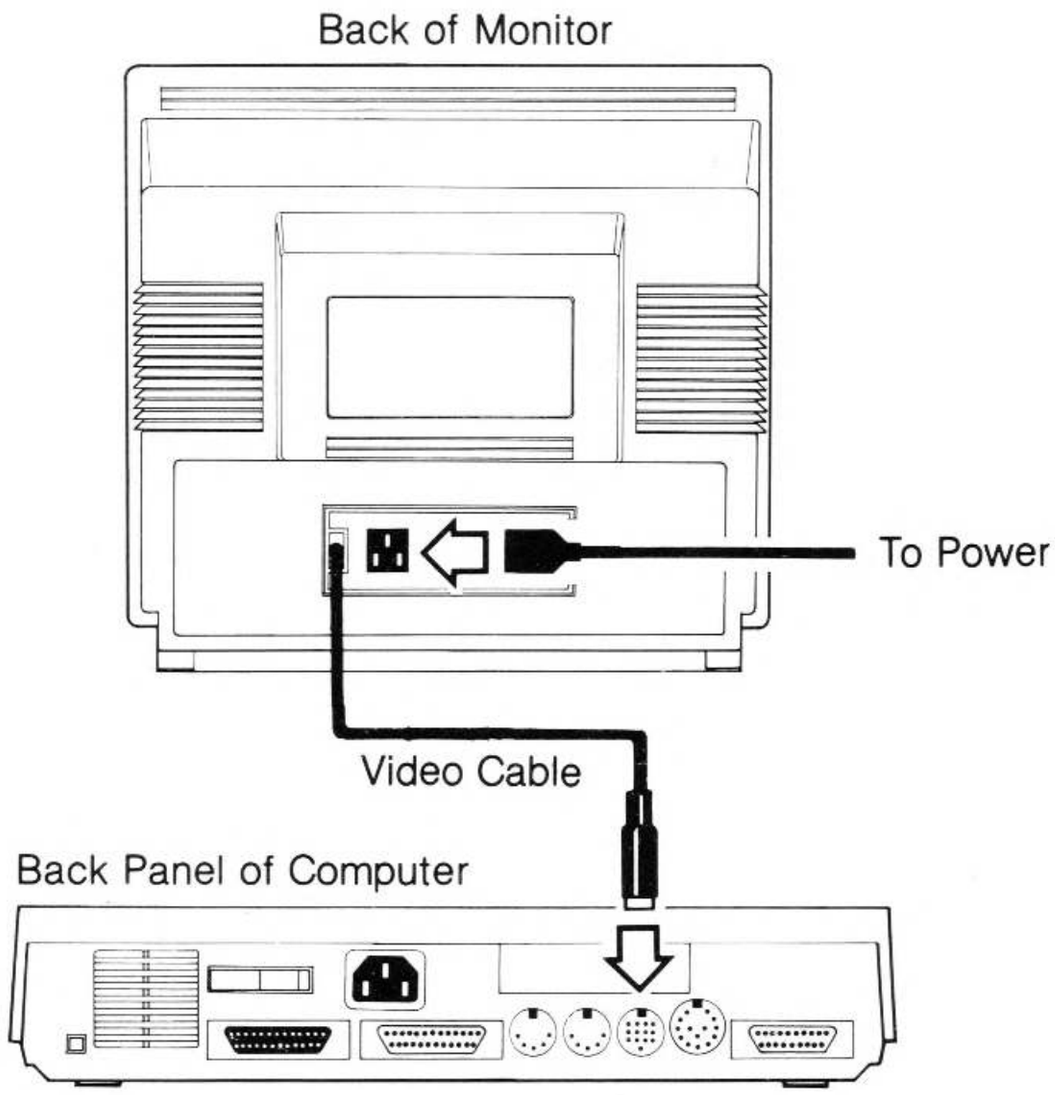
Adjustable legs on the bottom of the keyboard let you raise or lower the component to its best typing position. To raise the keyboard (for instance, when it's placed on a low tabletop) swing the legs out to the raised position. Push the legs back into their original position to lower the keyboard.



Monitor

The monitor provides the video display for the MEGA ST Computer, enabling you to see what's going on. This makes effective communication between you and your computer possible. You can attach either an ATARI High-Resolution Monochrome Monitor or an ATARI RGB Color Monitor to your computer system. Both monitors are designed to fit on top of the computer.

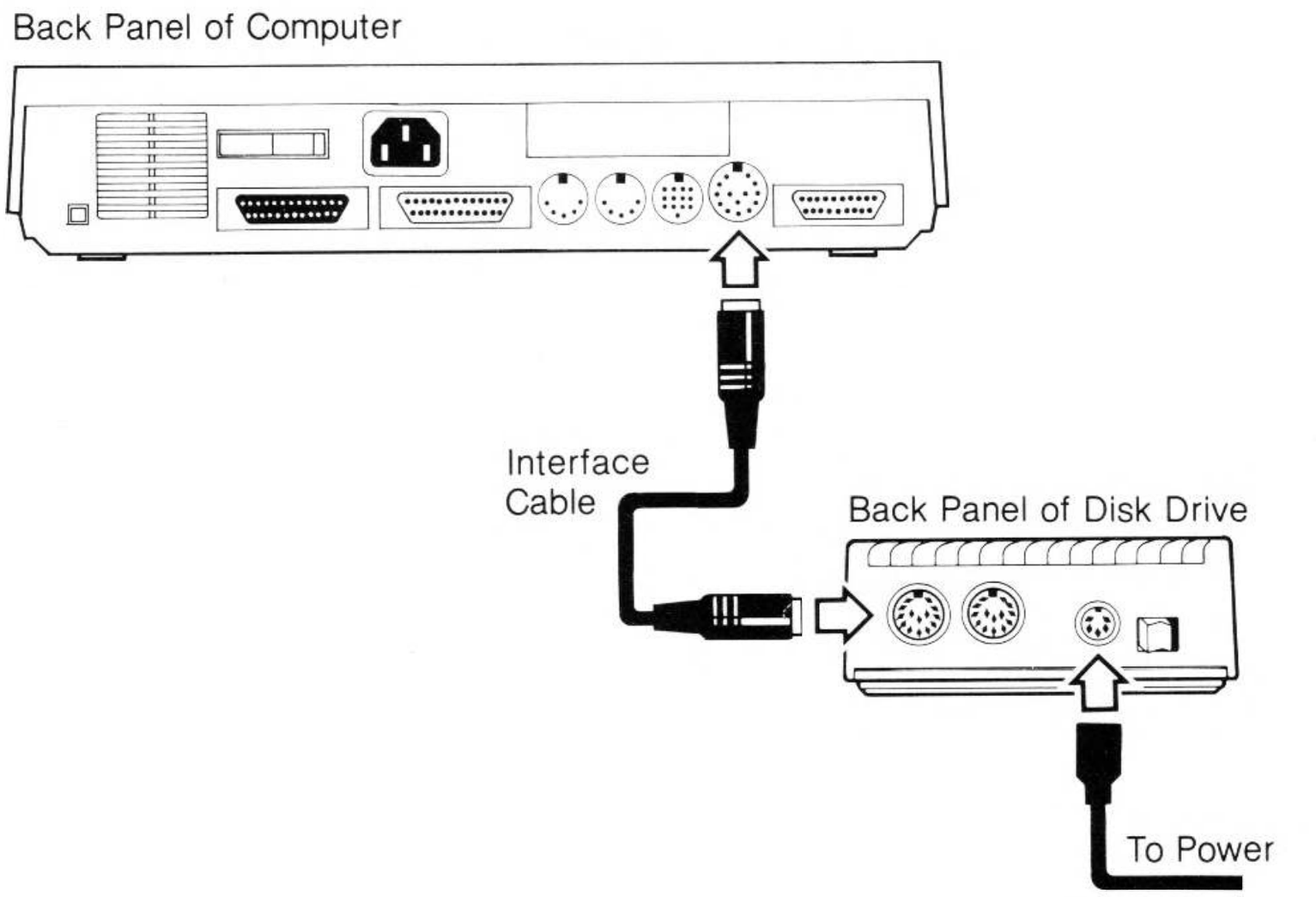
To connect the monitor, plug its video cable into the monitor first (if it is not already attached), then into the jack labeled "Monitor" on the back of the computer. Connect the monitor's power cable to the monitor, then plug it into a grounded wall outlet or power strip. (Consult the manual supplied with your monitor for further information.)



A Second Floppy Disk Drive

In addition to the disk drive built into your computer, you can connect a second, external disk drive to your computer system. A second drive streamlines the processes of data storage and retrieval.

To connect a second disk drive, make sure both the computer and disk drive are switched off and you've removed the protective insert from inside the drive. Plug one end of the drive's interface cable into the port labeled "Floppy Disk" on the back of the computer. Plug the other end into the port marked "In" on the back of the drive. Insert the round plug on the drive's power adapter into the jack labeled "Power" on the back of the disk drive. Then plug the power adapter's three-pronged plug into a grounded wall outlet or power strip.



Note: You can connect a maximum of one external floppy disk drive to your MEGA ST Computer system. The computer always refers to the external floppy disk drive as drive B.

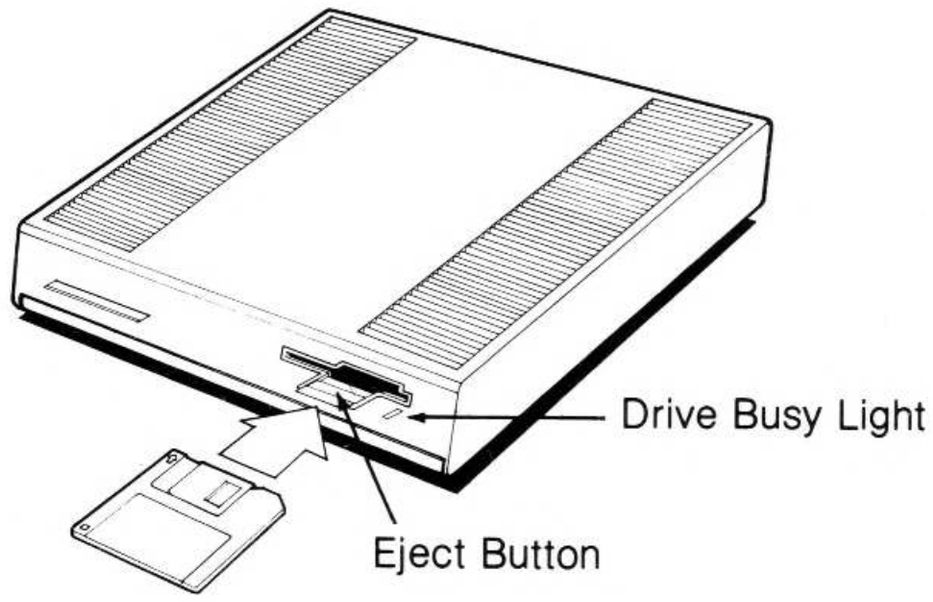
Switching On the System

Use the microfloppy disk supplied with your MEGA ST Computer when you switch on your computer. This disk contains information your computer needs during power-up.

Note: It's important to make a backup copy of the disk supplied with your MEGA ST Computer. Always use the backup copy as your working disk, and store the original for safekeeping. For instructions, see **Copying a Disk** in **Chapter 2**.

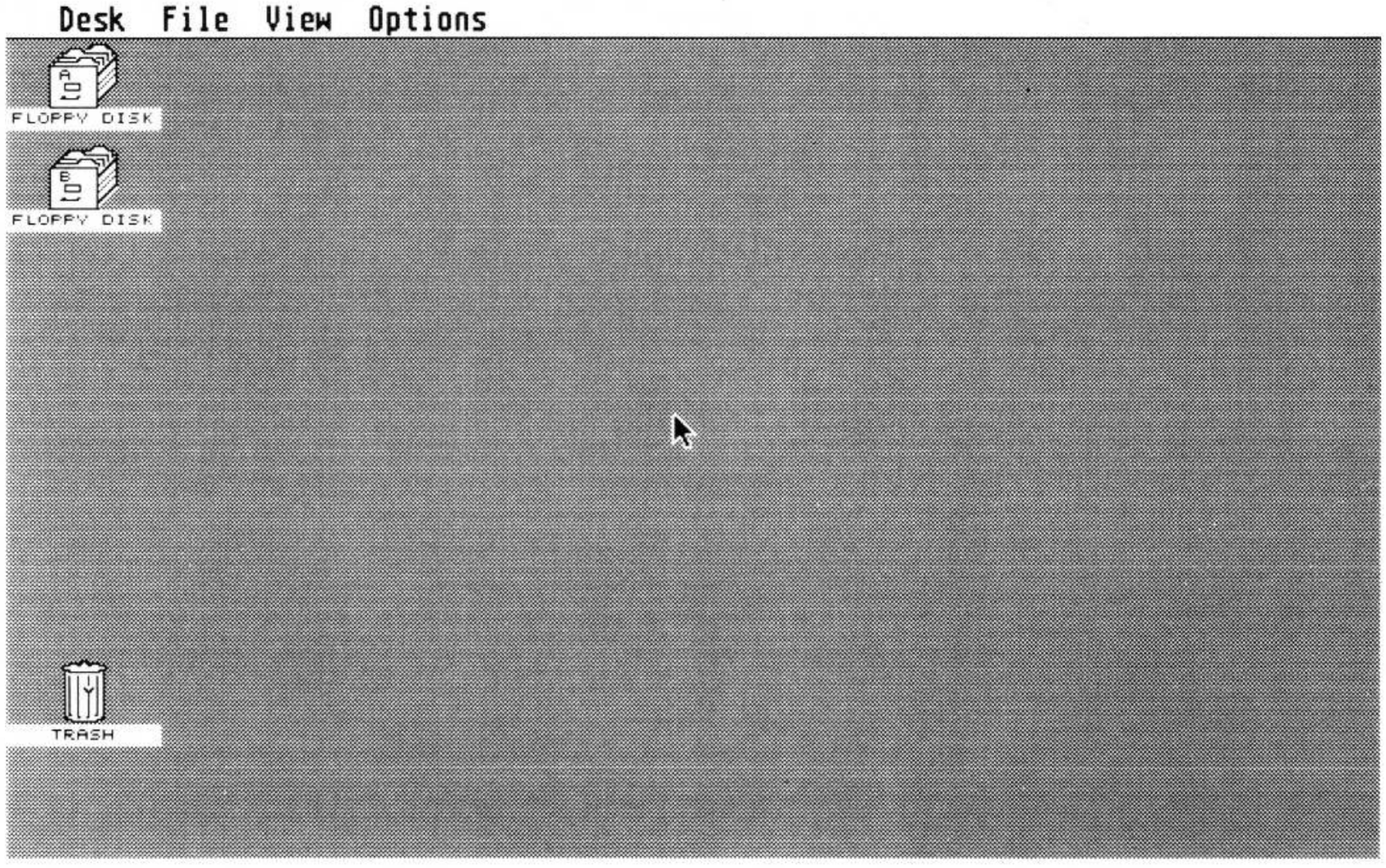
To switch on your computer, follow these steps:

1. Insert the disk into the internal drive (drive A). Hold the disk by its plastic casing, label side up, with the metal sleeve towards the slot on the front of the disk drive. Slide the disk gently forward into the drive opening until it clicks and locks into position. When properly inserted, the disk will be completely inside the drive.



Note: The disk inserted in drive A when you switch on your computer is called the boot disk. When you become more familiar with your computer, you may want to make your own custom boot disk. See **Making Your Own Boot Disks** in **Chapter 6** for information.

2. Switch on your monitor, your second disk drive (if you have one), then your computer. Always switch on your computer last. The power light on your keyboard comes on and the drive's busy light illuminates as the disk whirs. The computer is retrieving information from the microfloppy disk. After a few moments, the first screen display appears:



This is the GEM desktop. It is the starting point for almost everything you do with your MEGA ST Computer. (The GEM desktop is discussed in detail in the following chapters.)

Note: If the GEM desktop does not appear on your screen, switch off the computer. Make sure your monitor is switched on, the disk is correctly inserted in drive A, and all cable connections are proper and secure. Try switching on the system again. If the GEM desktop still fails to appear, see **Appendix B: Troubleshooting and Preventive Maintenance**.

Switching Off the System

Before switching off your system, remove any disks in your drives by pressing the eject button firmly inward. Then, switch off system components in the reverse order that you switch them on. First switch off your computer, then your second disk drive (if you have one), then your monitor.

Wait at least ten seconds before switching your computer back on. Switching the computer off and then on again is called a coldstart, and it completely resets the computer.

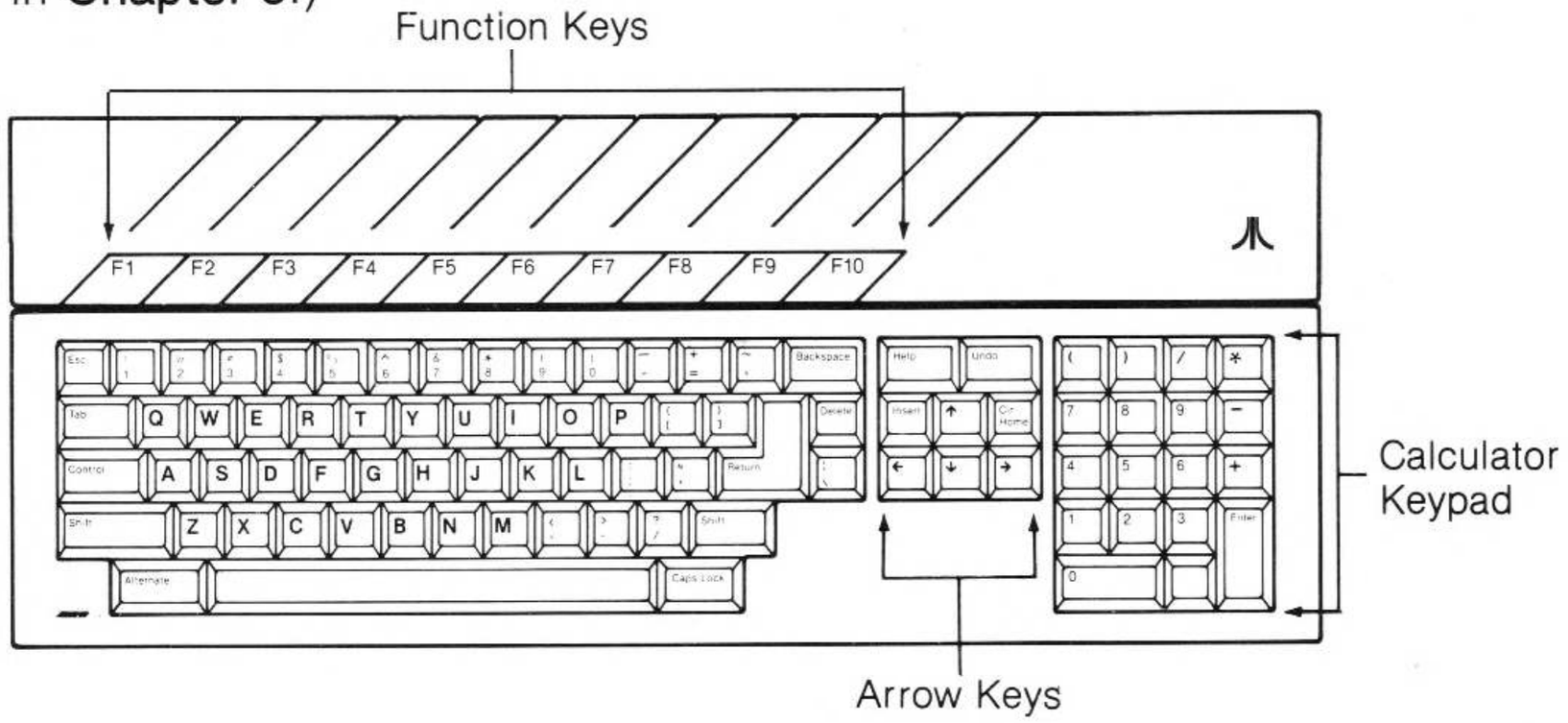
Ports and Features

The Keyboard Unit

The MEGA ST Computer keyboard is similar to a conventional typewriter keyboard in both design and function. For example, the **[Return]** key on the computer keyboard acts like the carriage return lever (or key) on a typewriter: it is used to move the cursor down one line of type on the screen. In addition, many keys on the computer's keyboard perform special functions not found in a typewriter.

Note: In this manual, characters enclosed by square brackets ([ ]) represent keys on your computer keyboard. Sometimes a procedure requires you to use two or three keys at the same time. In that case, the keys are listed in order. For example, **[Control] [X]** means to press and hold down the **[Control]** key and then press the **[X]** key.

Most keys will automatically repeat when they are held down. (For information on changing the rate of auto-repeat, see **Control Panel** in **Chapter 5**.)



The alphanumeric keys (letters, numbers and symbols) usually function just like similar keys on a typewriter. Pressing the **[S]** key produces the lowercase letter "s" and pressing **[Shift] [S]** produces the uppercase letter "S."

The **[Control]**, **[Shift]**, and **[Alternate]** keys are most often used in conjunction with another key to produce a secondary function or code. You hold down one of these keys while pressing another key. For example, you might press **[Control] [U]** to turn on underlining in your word processor.

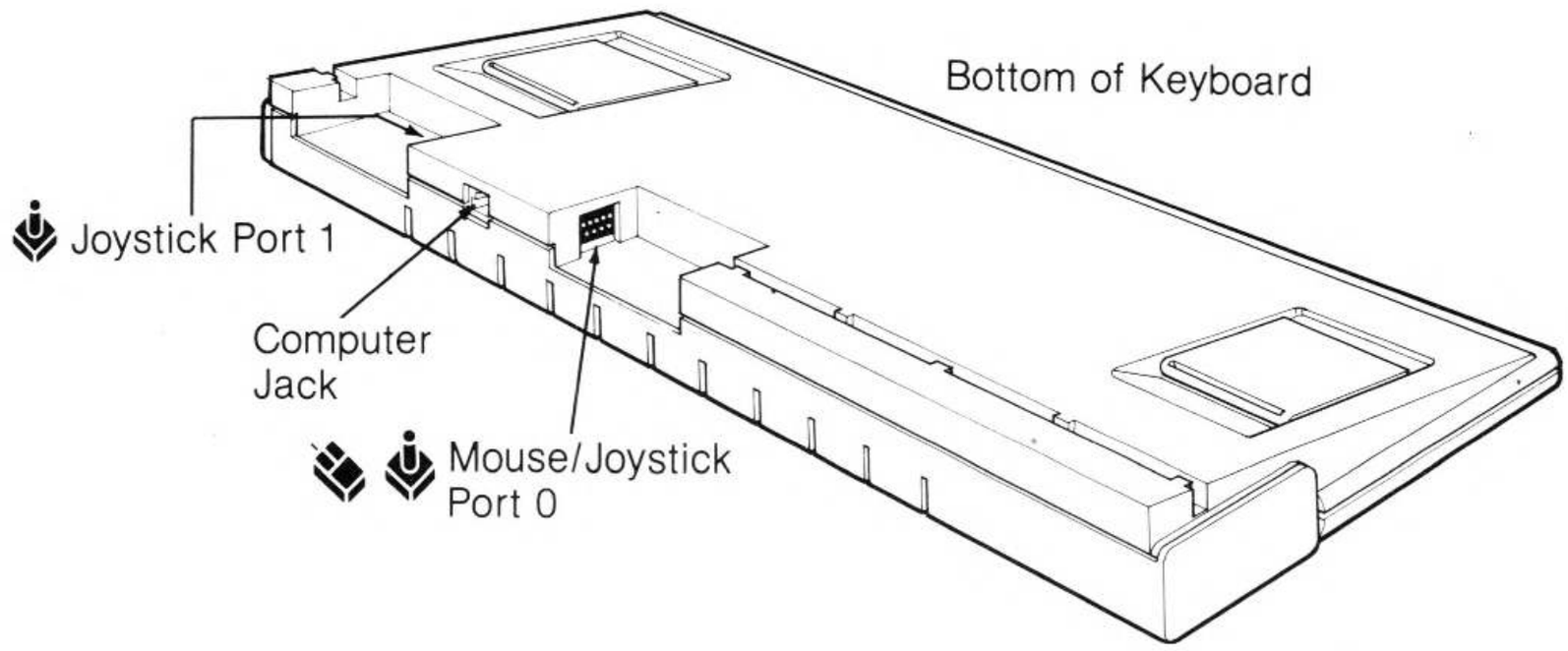
Along the top of the keyboard are the function keys **[F1]** through **[F10]**. These keys have no set meaning and are often used by software applications to perform special functions.

The four **[Arrow]** keys are generally used to move the cursor in the direction of their arrows, horizontally or vertically. The cursor is a movable graphic symbol, often an arrow, a block (▌), or a vertical line (|), on the screen, that marks where the next action will take place.

The calculator keypad usually functions as an alternate method for entering numbers and math symbols, generally producing the same effect as typing the number or symbol from the typewriter keyboard. **[Enter]** usually acts as **[Return]**.

Note: You can usually tell when the computer wants you to type something by the presence of a text cursor (generally a vertical line or a block).

The keyboard unit houses the mouse and joystick ports. The bottom of the keyboard includes adjustable legs so you can raise or lower the keyboard to its best typing position.



Computer

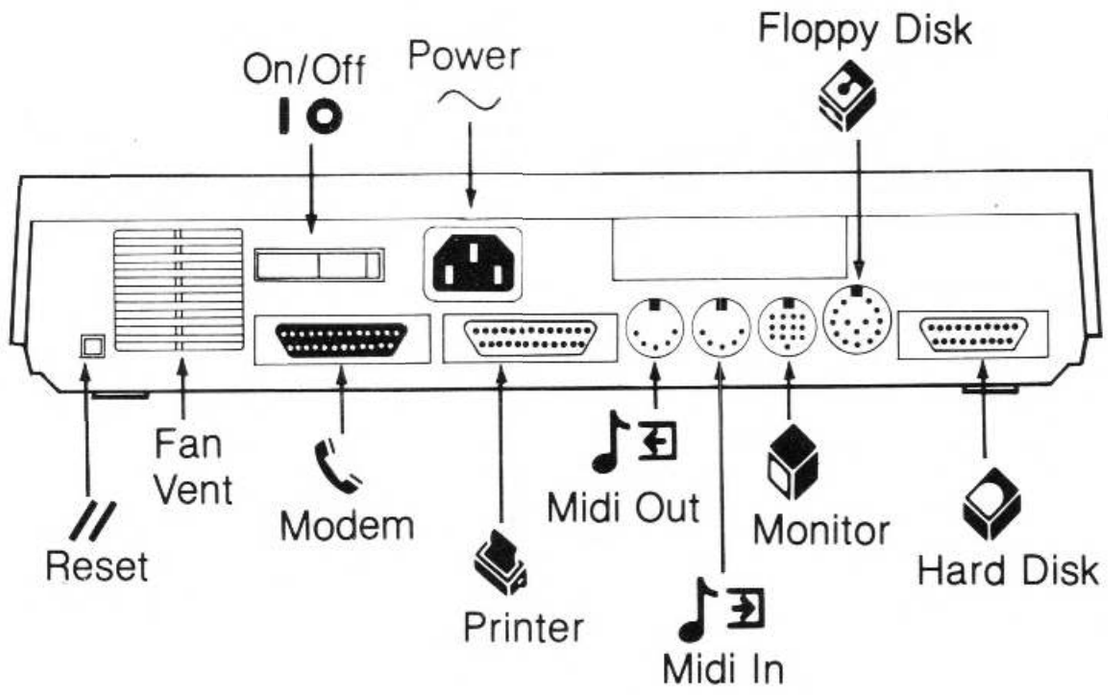
The MEGA ST Computer connects to the keyboard through the computer jack.

Mouse and Joystick

The mouse connects to the MEGA ST Computer keyboard through the mouse/joystick port 0. ATARI-compatible joysticks can also be connected through either port 0 or 1. You use joysticks when playing computer games to control the action of the game on screen.

The Computer's Back Panel

Many types of external devices, called peripherals, can be attached to the back panel of your MEGA ST Computer.



Be sure to switch off the power to both the peripheral and the MEGA ST Computer before attaching anything to the various ports. Some peripheral cables have small retaining screws or clips on the sides of the connector. When the cable is in place on the computer, tightening the screws or attaching the clips maintains a strong connection and helps eliminate interference which might affect television or radio reception in the area.

Warning: Never touch the exposed contacts on any port. Static electricity could harm the sensitive electronics inside your MEGA ST Computer.

// Reset

The reset button restarts the computer without switching it off. Restarting the computer this way is known as a warmstart.

Fan

Your MEGA ST Computer is equipped with an internal fan. Vents for the fan are placed on the back panel and top of the computer. Never obstruct airflow through these vents.

I O On/Off

The on/off switch turns the computer on and off; **I** is on, **O** is off.

Modem

Any industry-standard RS232 modem may be connected to your computer through the modem port by connecting the modem's interface cable. Your computer uses a modem to transmit and receive information to and from other computers over telephone lines. With a modem in your system, you can hook into a variety of electronic information and mail services, communicate with the computer at work, or talk to a friend's computer. You can also connect a serial printer or any other RS232 device through the modem port.

~ Power

The power jack connects the computer to the power source.

Printer

An ATARI Parallel Printer connects to your computer through the printer port. Connect the interface cable that came with your printer to this port, then to the printer. The printer port is an industry-standard parallel interface, so almost any parallel printer can be attached here.

Midi In/Out

MIDI stands for Musical Instrument Digital Interface. The two Midi ports give your computer access to electronic musical instruments. The Midi In port allows the computer to monitor a synthesizer or any other MIDI-equipped instrument. Through the Midi Out port, the computer controls an instrument's digital interface, letting you play complex compositions while changing the volume, tempo, and instrumentation. Using the MIDI interfaces and appropriate applications software, your computer can become a sophisticated studio recorder which you can use to create music one track at a time.

Monitor

An ATARI RGB Color Monitor or an ATARI High-Resolution Monochrome Monitor attaches to your computer through the monitor jack.

Floppy Disk

A second floppy disk drive (drive B) can be connected to your MEGA ST Computer through the floppy disk port.

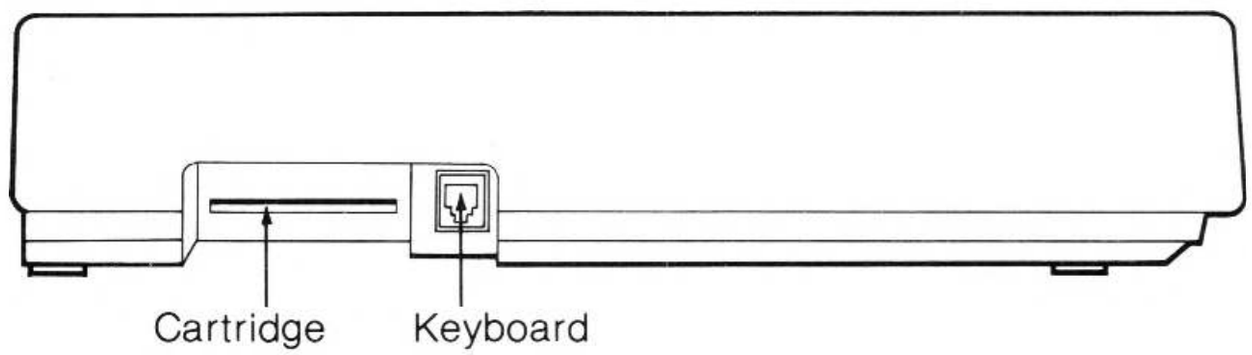
Hard Disk

An ATARI Hard Disk Drive attaches to your computer through the hard disk port. Connect the interface cable supplied with your hard disk to this port, then to the hard disk. A hard disk drive (drive C) can store much more information and transmit that information much faster than a floppy disk drive.

The hard disk port is a DMA (Direct Memory Access) port, providing a high-speed entry point directly into your computer's memory. You can also attach an ATARI Laser Printer or other high-speed peripheral to this port.

The Computer's Left Side Panel

The left side panel of the MEGA ST Computer contains the keyboard jack and cartridge slot.



Keyboard

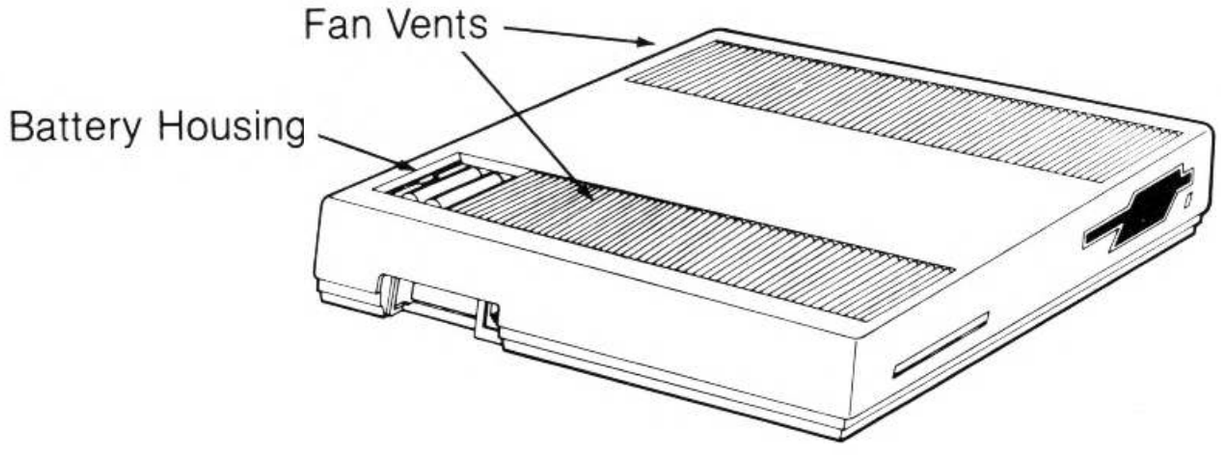
The keyboard connects to the MEGA ST Computer through the keyboard jack.

Cartridge

Software programs for the MEGA ST Computer that come in cartridge form are inserted in the cartridge slot. Cartridge programs load instantly and do not tie up any of the computer's memory. Up to 131,072 bytes (128 kilobytes) of program information can be contained on a single cartridge. The system treats the cartridge as drive c.

The Computer's Top Panel

The top panel of the computer holds the battery housing for the computer's real-time clock and two of the internal fan vents.



Batteries

The batteries that run the MEGA ST Computer's real-time clock are installed in the battery housing. Use two size AA batteries. Be sure to align the positive (+) and negative (–) ends of the batteries with the markings on the battery slots.

Warning: To prevent electrical shock, do not remove the cover from the MEGA ST Computer. Obtain all servicing, including expansion board installation, from an authorized ATARI dealer or service center. Before any expansion board installation is performed, it is absolutely required that the AC power cord be removed from the MEGA ST Computer.

CHAPTER 2
ST COMPUTER SYSTEM OVERVIEW

How the ST Computer Works

A computer uses integrated circuits to follow a set of instructions. Integrated circuits are small silicon wafers containing interconnected electrical components. Part of the system of circuits forms the computer's memory. The set of instructions, called a program, is contained in the computer's memory.

Memory

The ST Computer relies on three types of memory to store programs and other data: ROM (Read Only Memory), RAM (Random Access Memory), and magnetic disks.

ROM is permanent memory in your computer. ROM stands for Read Only Memory, meaning your computer can read the information in it, but you cannot change this information, add to it, or erase from it. Information in ROM is built-in and remains intact whether or not the computer has power.

RAM is the computer's memory chalkboard, and contains no information until you put it there. RAM stands for Random Access Memory, meaning you can choose which information in RAM to access, and you can change it, add to it, and erase from it. Information in RAM is not permanent; it vanishes when you switch off your computer.

Magnetic disks are separate from the computer. They store information, which can be read from the disk into RAM and later saved back to the disk from RAM. Information on a disk can often be erased and the disk reused. (For complete information about disks, see **Micro-Floppy Disks** later in this chapter.)

Memory is generally measured in bytes. A byte of memory holds about one typed character. A kilobyte is 1,024 bytes; a megabyte is 1,024 kilobytes. The MEGA ST Computer has 192 kilobytes of ROM, and from one to four megabytes of RAM, depending on the model. Magnetic disks for the ST Computer have either 357,376 bytes (single-sided disks) or 726,016 bytes (double-sided disks) of memory capacity.

TOS and GEM

TOS, The Operating System, is contained in ROM. TOS manages the way your ST Computer works, handling tasks such as reading and writing to disks, channeling commands from your mouse to the mouse pointer on screen, and displaying information on screen.

GEM, the Graphics Environment Manager, is part of TOS. GEM provides a graphic interface for the computer, so that information can be displayed on screen in graphic images (such as picture icons and windows) as well as in letters, numbers, and symbols.

The GEM Desktop

Whenever you switch on your ST Computer (as explained in **Chapter 1**), the first screen displayed is the GEM desktop. The GEM desktop is controlled by GEM, and is graphically designed to resemble an office, with file drawers, desktop working surface, and trash can. The standard elements on the desktop are the menu bar along the top of the screen, three icons along the left side, and the mouse pointer.

The menu bar gives you access to the drop-down menus, which list system options available from the desktop. Each menu heading (Desk, File, View, and Options) has its own drop-down menu, from which you can select options. (**Chapter 4** gives a complete description of the menu bar.)

Disk icons look like file drawers. They represent the disks (and the disk drives) which hold programs and data. The two disk icons that first appear are labeled "FLOPPY DISK" because they are used to access information on your microfloppy disks. The trash icon looks like a trash can, and is used to delete unwanted items from your disks. (For more information, see **The Disk and Trash Icons** in **Chapter 3**.)

The mouse pointer shows your position on the desktop. You control the mouse pointer either with the hand-held mouse or from the keyboard. When the computer is busy loading or transferring information, the mouse pointer changes to a bee icon.

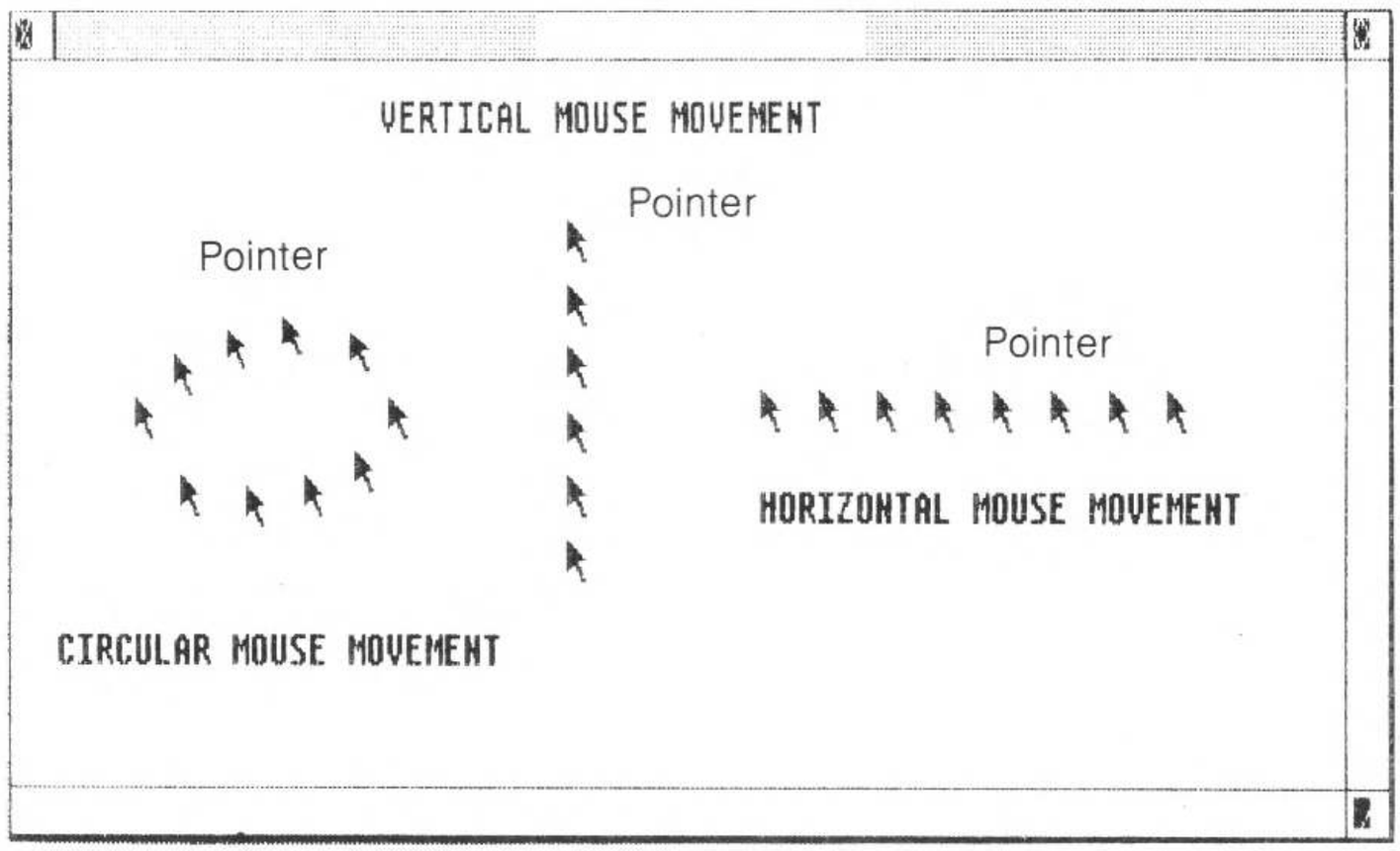
Controlling the Mouse Pointer

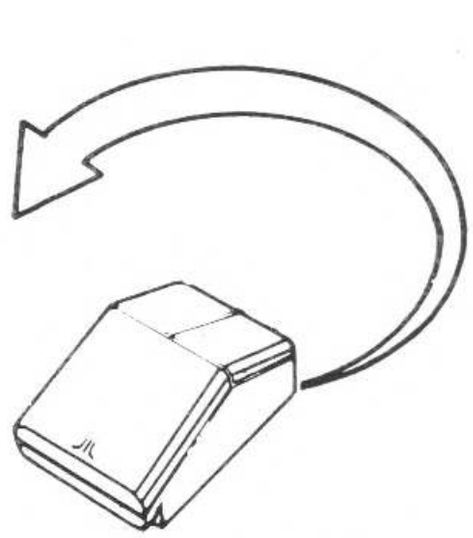
The mouse supplied with your ST Computer is your main device for controlling the mouse pointer. It is a small, rectangular box with two buttons on top, a roller underneath, and a cable connecting it to mouse/joystick port 0 on your computer keyboard.

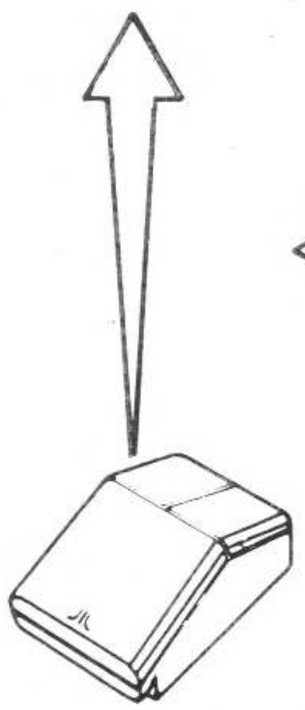
The mouse is used by rolling it over a clean, hard, flat surface such as a tabletop. The ST Computer detects its motion (direction, distance, and speed) and moves the mouse pointer on screen in the same way. By moving the mouse, you can position the pointer where you want it on the desktop.

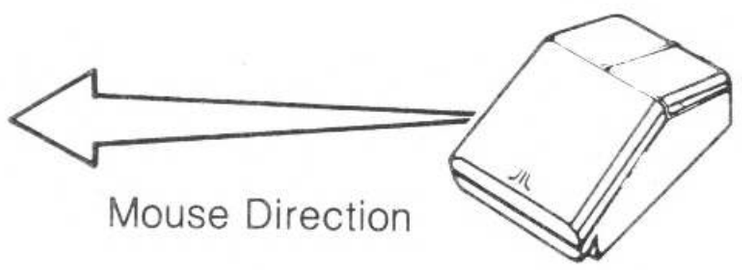
Place the mouse on a flat surface near your computer with the cable pointing away from you. Now roll the mouse around in any direction. Notice how the mouse pointer moves on screen in the same direction the mouse moves.

Note: If you touch the menu bar with the mouse pointer and a menu drops down, you can retract it by moving the pointer out of the menu and pressing and releasing the left mouse button.




Mouse Direction


Mouse Direction

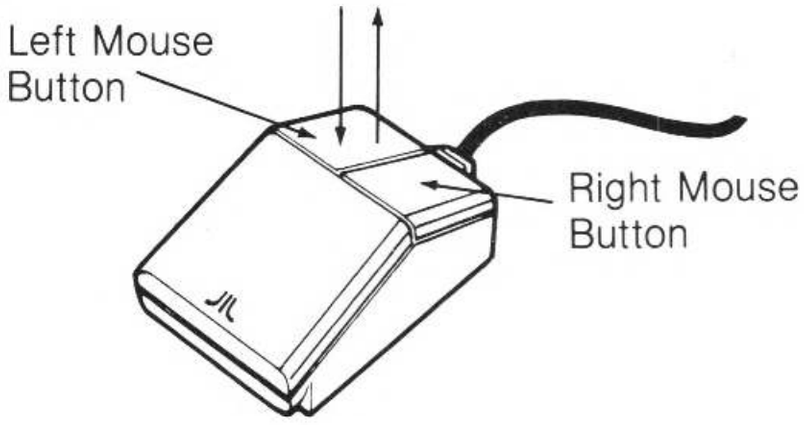

Mouse Direction

Clicking the Mouse Buttons

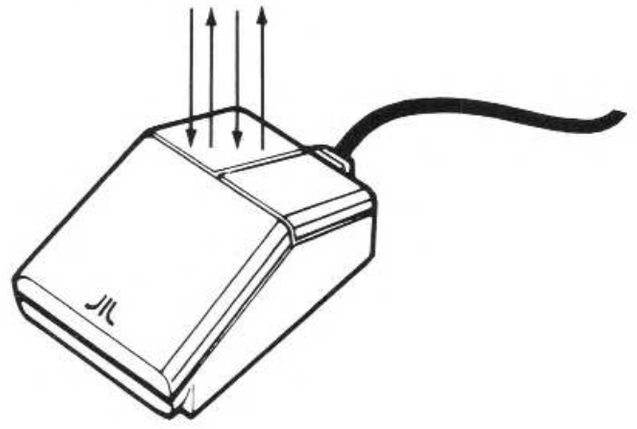
Clicking is a mouse operation used to perform one action at a time, such as selecting a file, on the desktop. For most actions you will click the left mouse button. Double-clicking combines several actions, such as selecting and opening a file.

To click, press and release the mouse button once. To double-click, quickly press and release the mouse button twice. (Double-clicking correctly takes some practice, and you may not master it on the first try.)

Clicking



Double-Clicking



Note: To adjust the responsiveness of the mouse buttons to your clicking speed, see **Control Panel** in **Chapter 5**.

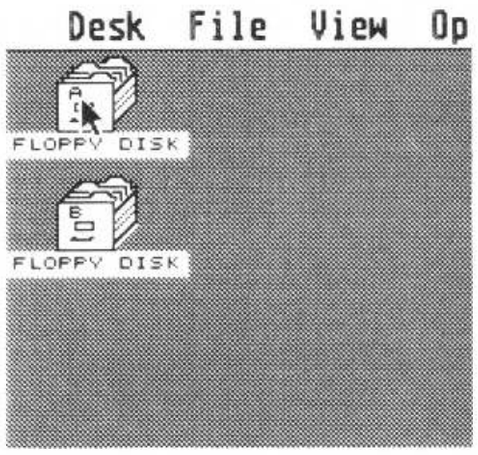
Selecting

When you select an item on the GEM desktop, you tell the computer you want to use the disk, file, or function that the item represents. To select an item, move the mouse pointer until its tip is on the item. Then click the left mouse button.

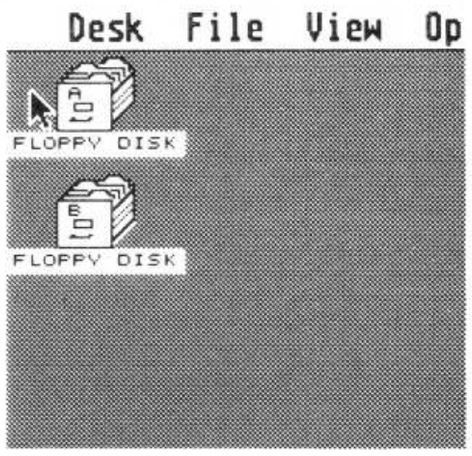
Selecting an Icon

To select an icon, first point at it by positioning the tip of the mouse pointer on that icon.

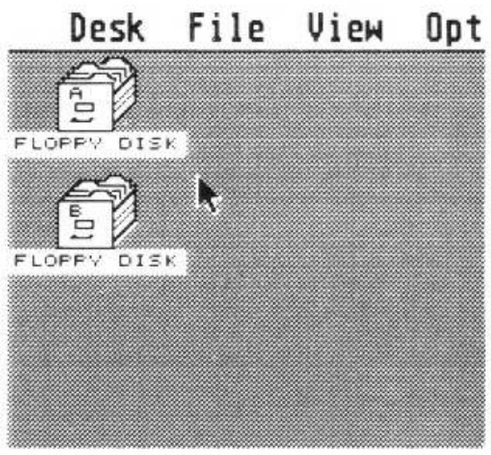
Positioning the Mouse Pointer



Correct



Incorrect

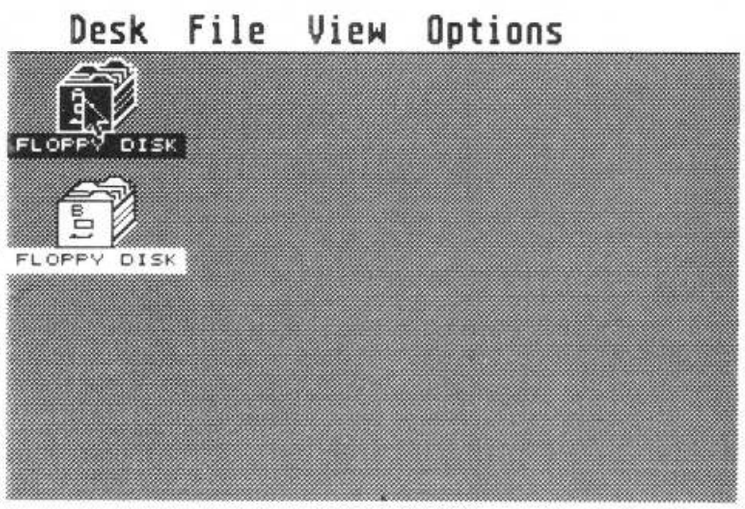


Incorrect

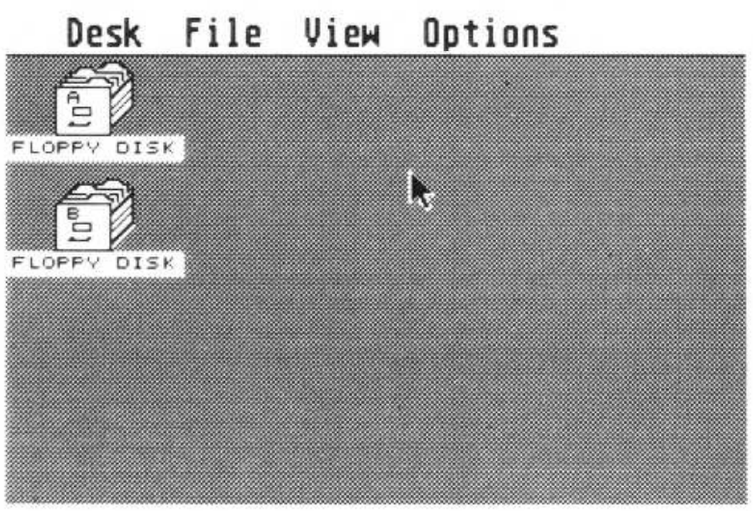
When the pointer is correctly positioned, click the left mouse button. The icon will reverse shading (highlight) to indicate it has been selected.

To cancel your selection, move the pointer away from the icon and click the left mouse button. Selecting a different icon also cancels the first selection.

Selecting an Icon



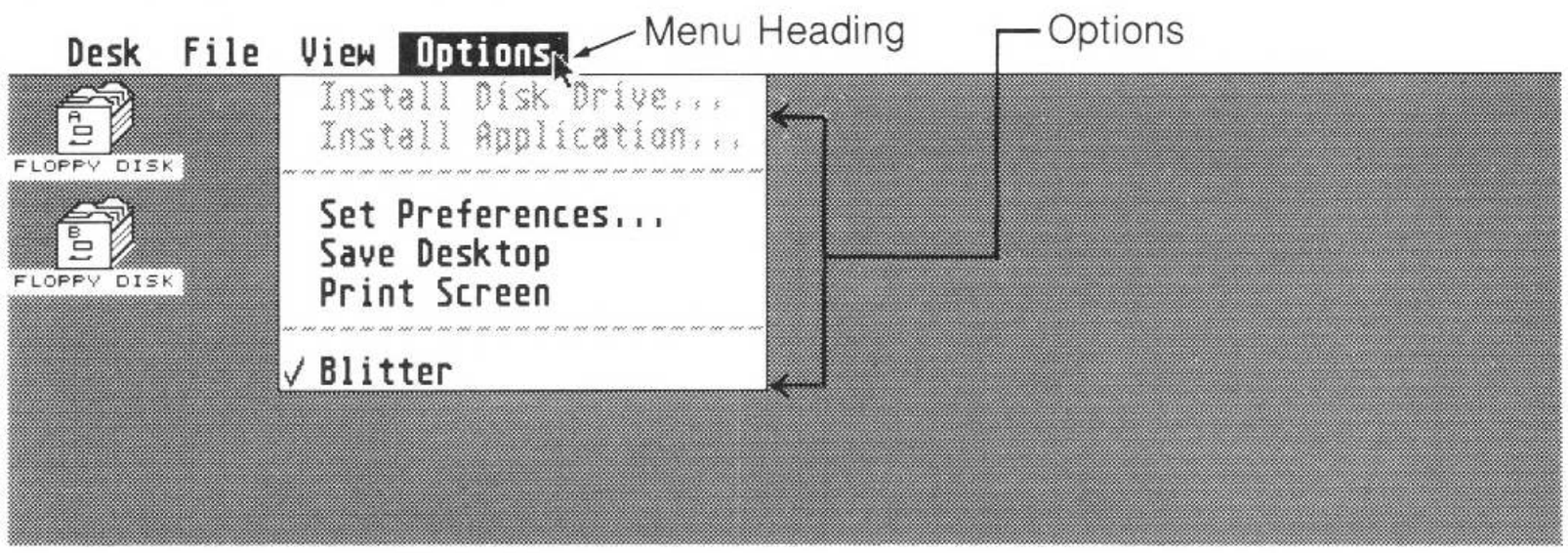
Canceling the Selection



Selecting a Menu Heading and Option

Each menu heading on the menu bar has its own drop-down menu. Move the mouse pointer onto the menu bar and point at one of the headings. Its menu immediately drops down.

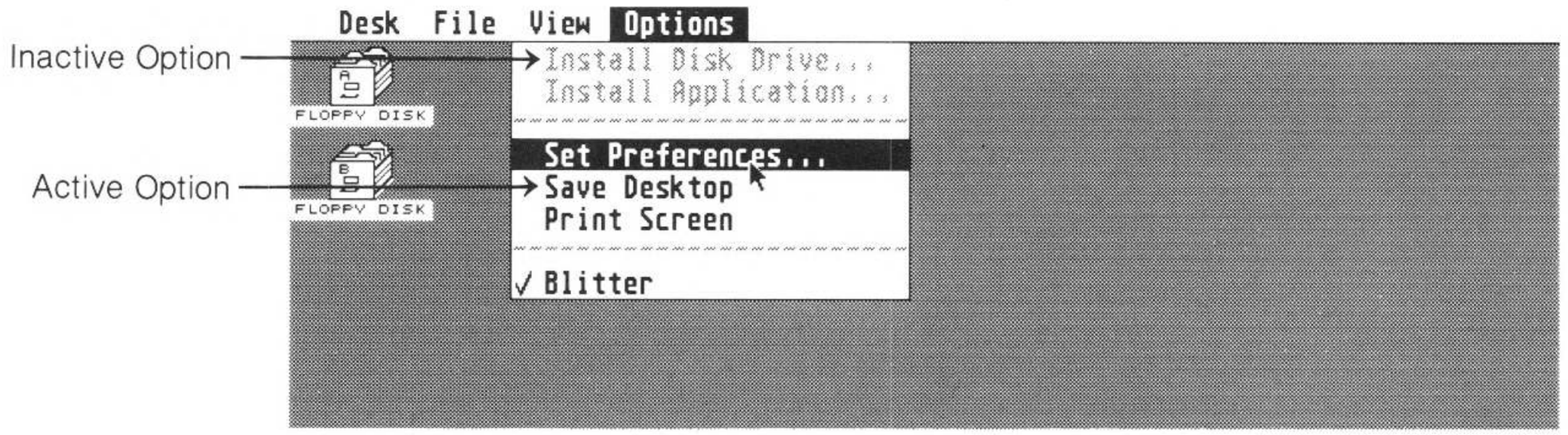
Selecting a Menu Heading



Moving the pointer along the menu bar lets you examine each menu in turn. As you move the pointer from one heading to another, the previous menu retracts and the next menu drops down.

Once a menu drops down, its options are available for you to select. Move the mouse pointer down the menu over the options. Notice that the options highlight as you point to them. To select an option, click the left mouse button when the option is highlighted.

Selecting a Menu Option



A drop-down menu may have both active and inactive options. Active options are in black text and produce an action when selected. Inactive options are in light grey text and produce no action if selected, other than causing the menu to retract. Some options have a check (√) next to them, indicating they are currently selected.

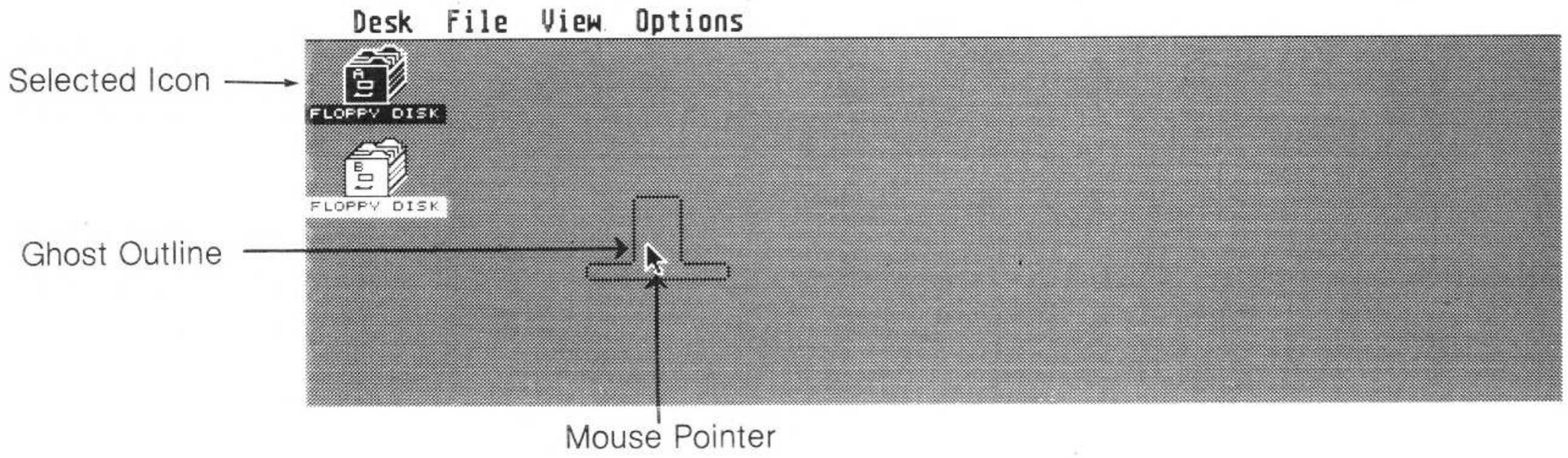
To retract a menu without selecting an option, move the pointer outside the menu and click the left mouse button.

Dragging

Dragging moves items from one place to another on the desktop.

To drag an item, first point at it, then press and hold down the left mouse button. The item highlights, and a ghost outline of the item appears. Still holding down the mouse button, move the mouse pointer across the desktop. The ghost outline follows the pointer. When you release the button, the item jumps to its new location, appearing at the last position of the ghost outline.

Dragging an Icon



Controlling the Mouse Pointer from the Keyboard

You can use certain keys on your ST Computer keyboard to move the mouse pointer around the desktop. The following list gives the keystroke combinations that control the mouse pointer. To use the combinations, hold down the first key listed and press the second key (or hold down the first two keys and press the third key).

[Alternate] [any Arrow key]	Moves the pointer eight pixels (screen dots) in the direction of the arrow.
[Alternate] [Shift] [any Arrow key]	Moves the pointer one pixel in the direction of the arrow (for fine positioning).
[Alternate] [Insert]	Selects an item, in the same way as clicking the left mouse button. To double-click, hold down **[Alternate]** and quickly press **[Insert]** twice.

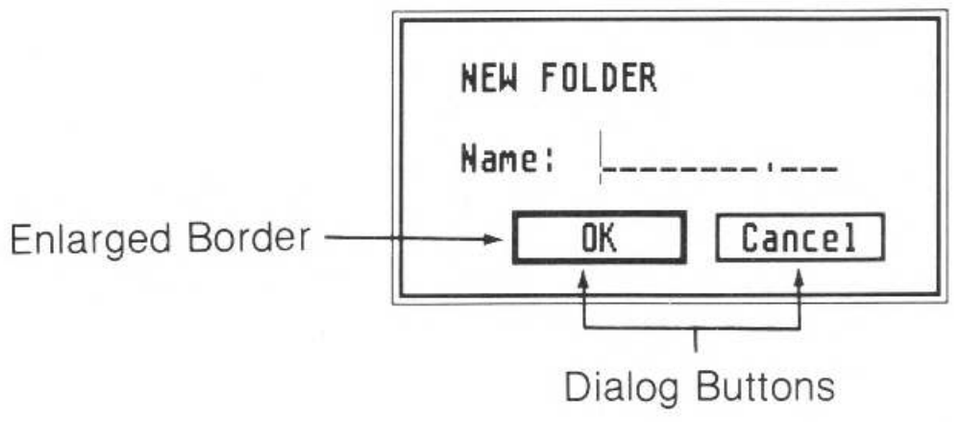
[Alternate] [Insert] [any Arrow key]	Drags an item in the direction of the arrow, in the same way as holding down the left mouse button and moving the mouse.
[Alternate] [Clr Home]	Performs right mouse button functions.

Note: See **Appendix A** for a quick reference chart listing the keystrokes for controlling the mouse pointer.

Dialog Boxes and Alert Messages

Dialog Boxes

When the ST Computer needs to communicate with you, it displays a dialog box in the center of the desktop. For example, in the dialog box below, the computer is asking you to name a new folder.

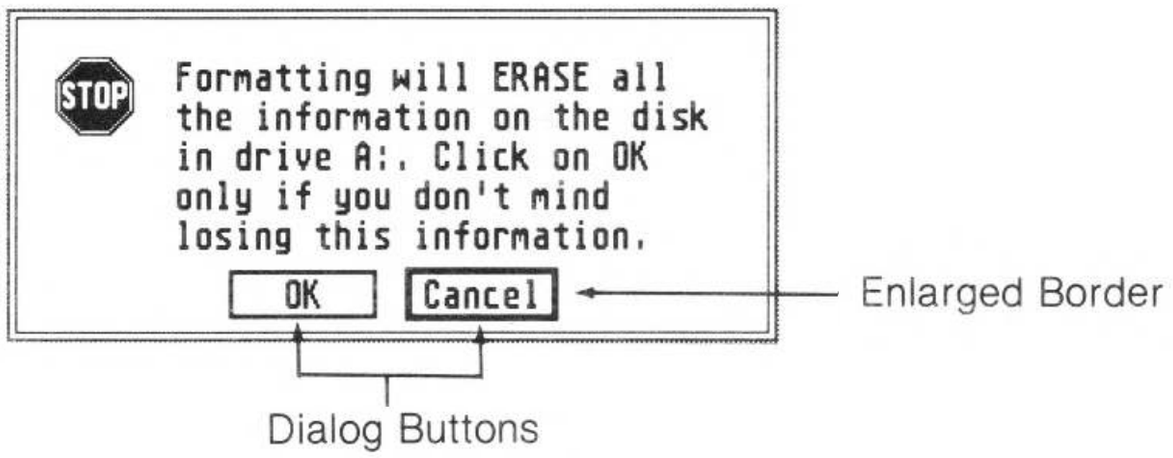


To respond to a dialog box, type in the requested answer or perform the requested action. Then select one of the dialog buttons. If a dialog button has an enlarged border, it is the default button, and can also be selected by pressing **[Return]**. (A default is a value, option, or setting that the computer automatically makes unless you make another selection.) Pressing **[Return]** for the dialog box above selects the OK button.

Note: For a complete explanation of dialog boxes, see **Editable Dialog Boxes** in **Chapter 6**.

Alert Messages

The computer uses alert messages to bring something to your attention. Alert messages are punctuated with stop signs, question marks, or exclamation points, and may either caution you about an intended action or tell you something went wrong.



When you see an alert message, follow its instructions, then select the appropriate dialog button. If a dialog button has an enlarged border, you can also select it by pressing **[Return]**.

One-Drive and Two-Drive Systems

Your ST Computer includes a built-in floppy disk drive which may be single- or double-sided. In addition, your computer can connect to a second, external floppy disk drive, again either single- or double-sided. A single-sided drive uses only single-sided disks; a double-sided drive can use both single- and double-sided disks. (For a complete explanation, see **MicroFloppy Disks** later in this chapter.)

The built-in floppy disk drive is called drive A. However, the GEM desktop displays two floppy disk icons, A and B. In systems limited to one disk drive, that drive acts as both drive A and drive B. During operations that use two disks, such as copying a file, the computer will tell you with dialog boxes when to switch disks in the drive as the operation progresses:



You must switch disks when requested in order to proceed.

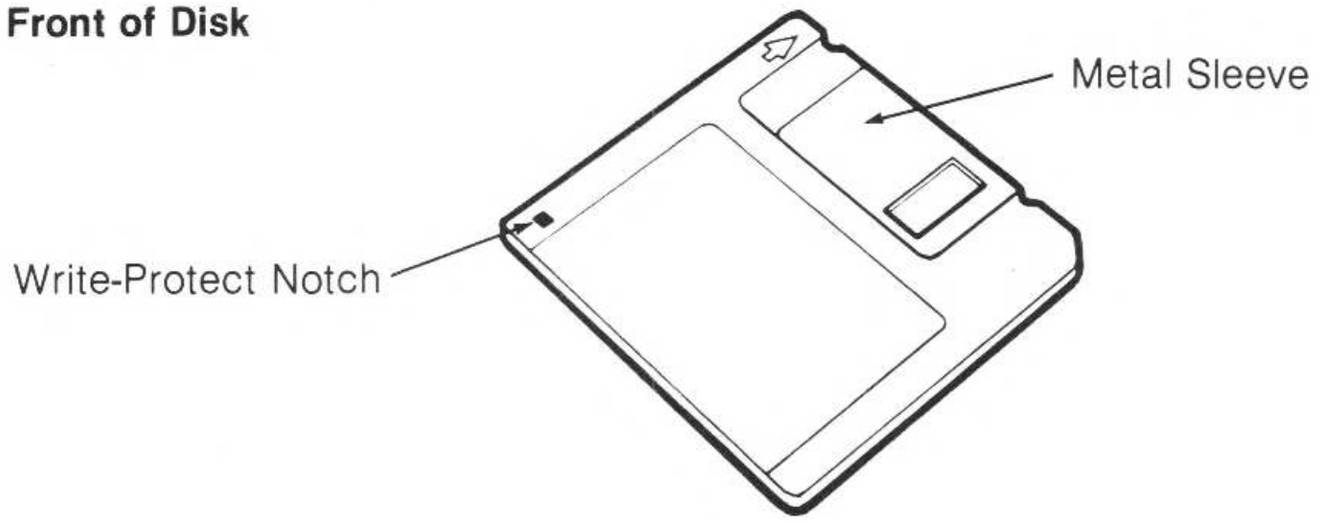
If you have connected a second floppy disk drive to your system, your built-in drive remains drive A and the external drive becomes drive B. With two disk drives, you can operate with two disks at the same time.

Note: Installing a RAM disk program in a one-drive system lets you operate as if you had two disk drives. A RAM disk uses part of RAM as a disk drive, and eliminates the need to switch disks in the drive during certain procedures. For more information on RAM disk programs, contact your ATARI dealer.

MicroFloppy Disks

Microfloppy disks serve as permanent storage for your programs and the information you develop using your programs. These disks (often called floppy disks or floppies) consist of a 3½-inch rectangular plastic casing holding a circular sheet (disk) of oxide-coated material. This material is the magnetic media, which holds data and is read by the disk drive. Its accessible section is protected by a sliding metal sleeve. Most floppies also have a write-protect notch in the lower left corner.

Front of Disk



Insert a floppy disk into your disk drive, metal sleeve first, with the write-protect notch on the left. Inside the drive, a mechanical catch slides the metal sleeve open, exposing the sensitive magnetic disk to the drive's read/write head. Information is written on the disk in concentric rings called tracks. The read/write head moves back and forth from one track to another as the disk spins.

Warning: DO NOT slide the metal sleeve open or touch the magnetic disk. Doing so may damage your disk and the information on it.

Remove a floppy disk from your drive by firmly pressing the eject button on the front of the drive. Be sure the drive's busy light is off before you insert or remove a disk.

Single-Sided and Double-Sided Disks

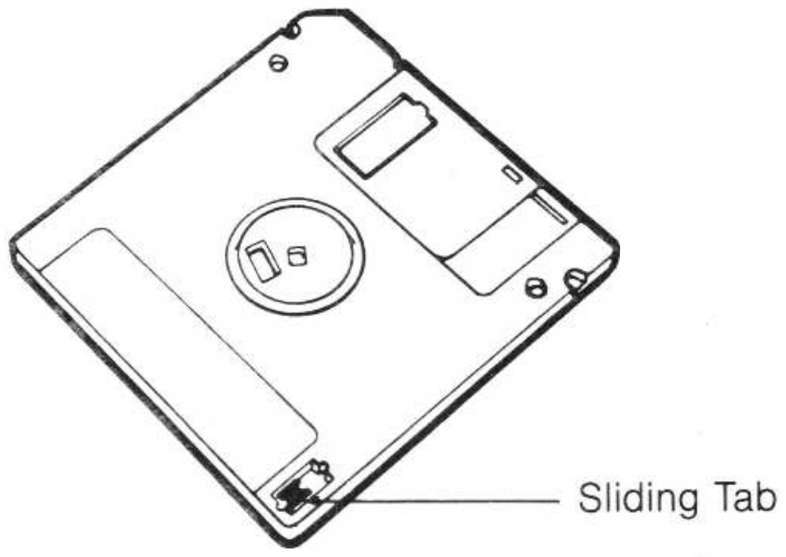
Microfloppy disks can be either single-sided or double-sided and are usually marked as such. Both types of disks look the same. In a single-sided disk, only one side of the magnetic disk is certified as safe for storing information. In a double-sided disk, both sides of the disk are certified. A single-sided disk can store up to 357,376 bytes of information; a double-sided disk can store up to 726,016 bytes of information.

Write-Protecting a Disk

When you write-protect a disk, you prevent information from being written to the disk. To write to a disk means to store information on the magnetic media. (Similarly, to read a disk means to retrieve information recorded on the disk.) The drive and computer work together to write information from the computer's memory onto the disk, or to read information from the disk into the computer's memory.

Most disks have a small write-protect notch in the lower left corner of their plastic casing. On the back of the disk, the write-protect notch has a sliding tab. To write-protect a disk, slide the tab until you can see through the notch.

Back of Disk



A write-protected disk cannot be formatted, erased, or written to. It's a good idea to write-protect disks containing important information so that you don't inadvertently erase them, especially during copying with a one-drive system. You can move the write-protect tab back to the unprotected position at any time.

Note: Some commercial applications program disks do not have write-protect tabs. These disks are permanently write-protected.

Formatting a Disk

You must format a new disk before you can use it. Formatting prepares a disk to receive information by completely erasing the disk, checking it for damage to the magnetic media, and setting patterns in place to hold the information you will eventually write to the disk.

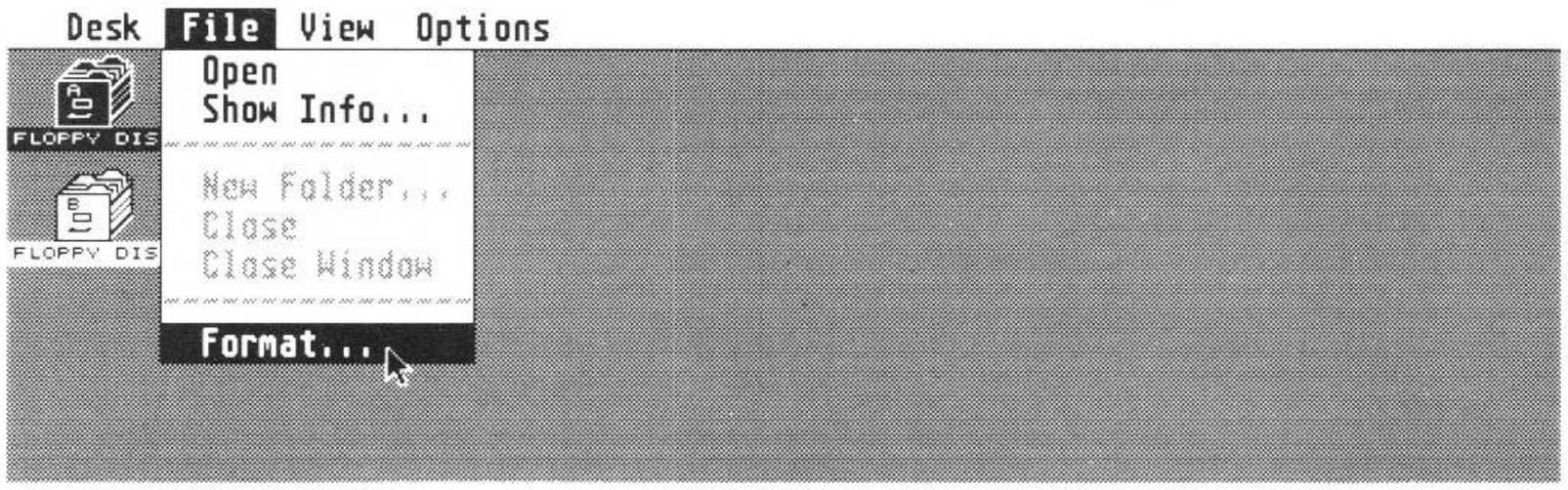
Single-sided disks must be formatted as single-sided. However, you can format disks certified for double-sided use as either double- or single-sided. Disks formatted as single-sided can be used in both single- and double-sided drives. Disks formatted as double-sided can be used only in a double-sided drive.

You can also reformat disks you've already used. Since formatting erases all information on a disk, it's sometimes more efficient to reformat a disk rather than delete all its files using the trash can.

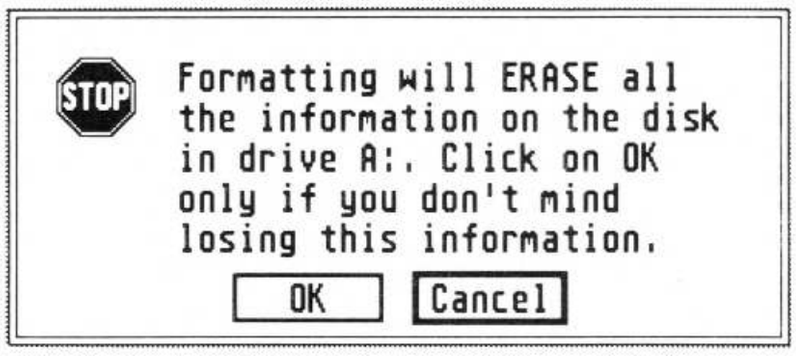
To format a disk, follow the steps below.

Warning: Formatting a disk completely erases all information on the disk. Before formatting a disk, be sure to copy any data from it that you want to save (see **Copying Files and Folders** in **Chapter 3**).

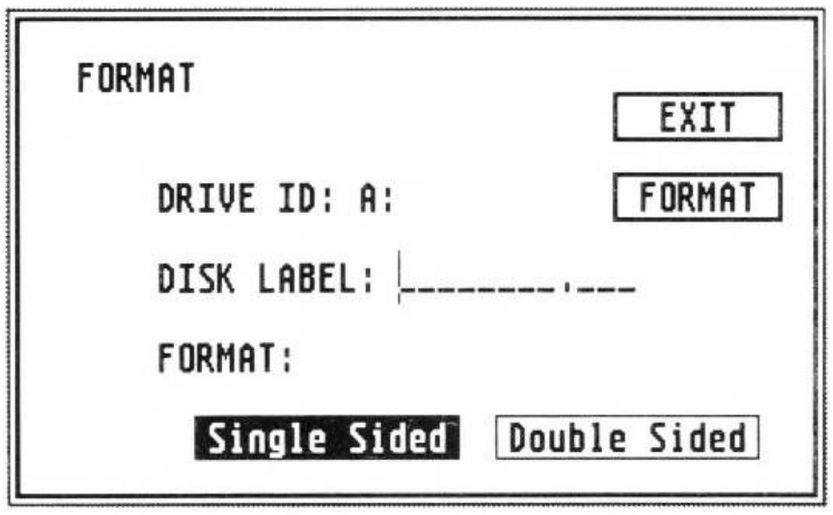
1. Make sure the disk you want to format is not write-protected. Then, with your computer turned on and the GEM desktop displayed, insert the disk into drive A. (If you have a two-drive system, you can insert the disk into either drive A or drive B.)
2. Select the floppy disk A icon (or select the floppy disk B icon if you have inserted the disk into drive B).
3. Move the mouse pointer to the File heading in the menu bar. When the File menu appears, select the Format option.



4. The GEM desktop now displays the following alert message:



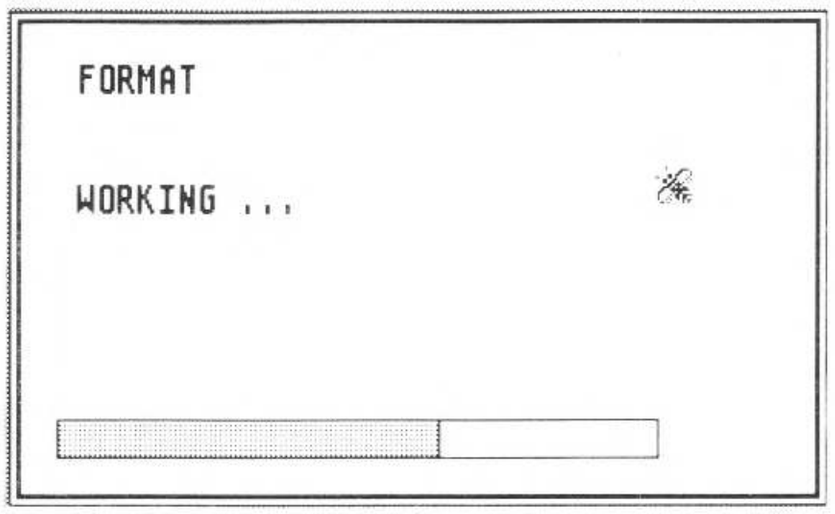
As a safeguard, this message warns you that formatting will erase any information previously stored on the disk. If you are beginning with a blank disk, the warning doesn't apply. Select the OK button and proceed to the FORMAT dialog box.



DRIVE ID shows which drive will begin formatting. The DISK LABEL line lets you name your disk, although it isn't necessary to do this. (For information on naming your disk, see **Filenames, Directories, and Pathnames** in **Chapter 3**.) Select either the Single Sided or Double Sided button, depending on how you want to format your disk.

Reminder: You must have a double-sided disk in a double-sided drive to use the double-sided format option. Once you format a disk as double-sided, you can use it only in a double-sided drive. You may format a double-sided disk as single-sided, although only one side of the disk will then be used.

5. Select FORMAT (or select EXIT to stop the process and return to the desktop). When you select FORMAT, the drive begins formatting and the FORMAT WORKING box appears, monitoring the format process.



6. When formatting is completed, the following alert message appears:

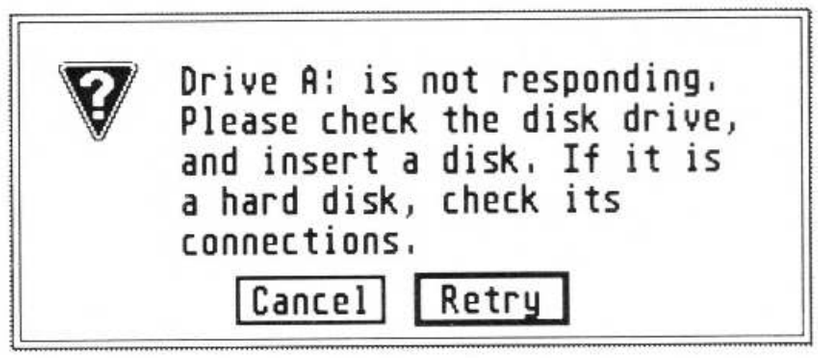


Select the OK button (or press the **[Return]** key) to proceed.

Note: If your computer does not report that the formatted disk can hold 357,376 bytes of information for a single-sided disk or 726,016 bytes of information for a double-sided disk, the disk may be defective. Try formatting it again. If the problem persists, discard the bad disk and use another disk.

7. The FORMAT box again appears. Select EXIT to return to the GEM desktop.

If you try to use a disk without first formatting it, or if you try to use a double-sided disk in a single-sided drive, the computer displays the following alert message:



Insert a correctly formatted disk into the drive, then select Retry. (Or select Cancel to tell your drive not to read that disk.)

Copying a Disk

It is essential to make a backup copy of all your important disks. This protects you from losing a disk or damaging its contents.

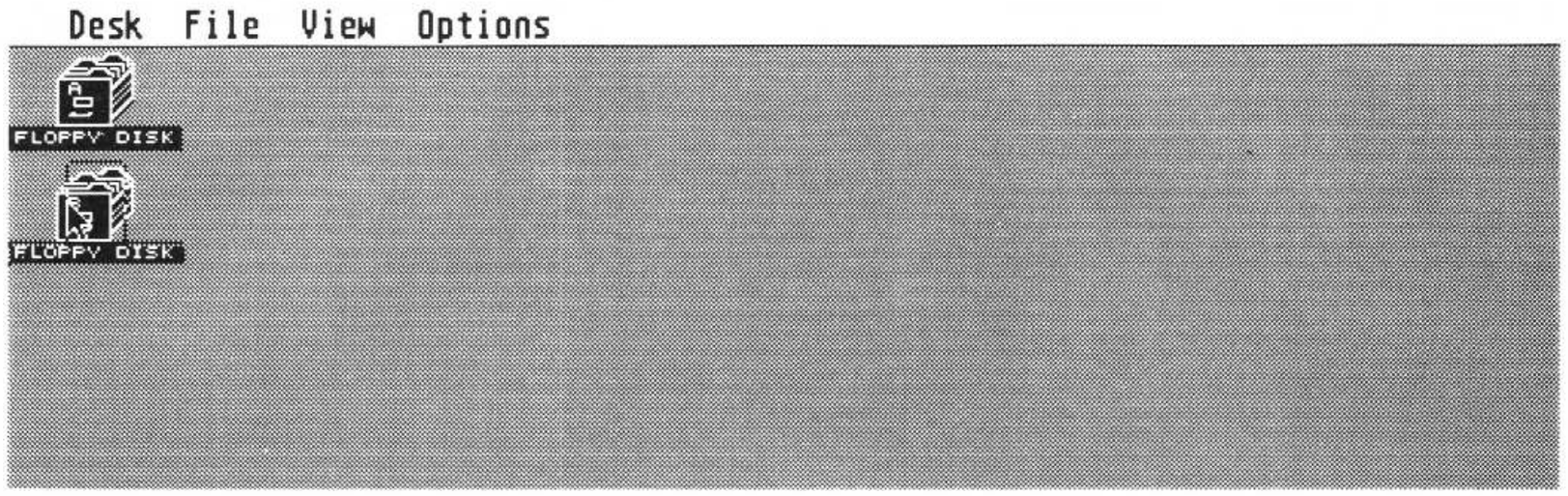
Note: It's especially important to make a backup copy of the disk supplied with your ST Computer. Then store the original disk and use the backup copy as your working disk. If you haven't already copied the disk, you should do it now. Be sure to write-protect the disk before you copy it.

In order to copy a disk, you need to have another formatted disk available as your destination disk. This disk need not be blank, but all data on it will be overwritten during copying. A destination disk must be the same type (single- or double-sided) as the original disk. (You cannot copy a double-sided disk to a single-sided disk or vice versa.)

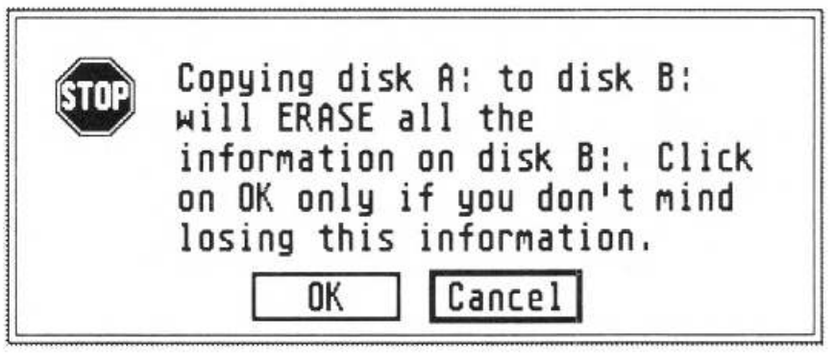
To copy a disk, follow these steps:

1. Have two disks ready: the original disk (called the source disk), and a formatted disk (called the destination disk) to copy to. Make sure the source disk is write-protected, and the destination disk is not write-protected.
2. With your computer turned on and the desktop displayed, insert the source disk into drive A. If you have two disk drives, insert the destination disk into drive B (your external drive).

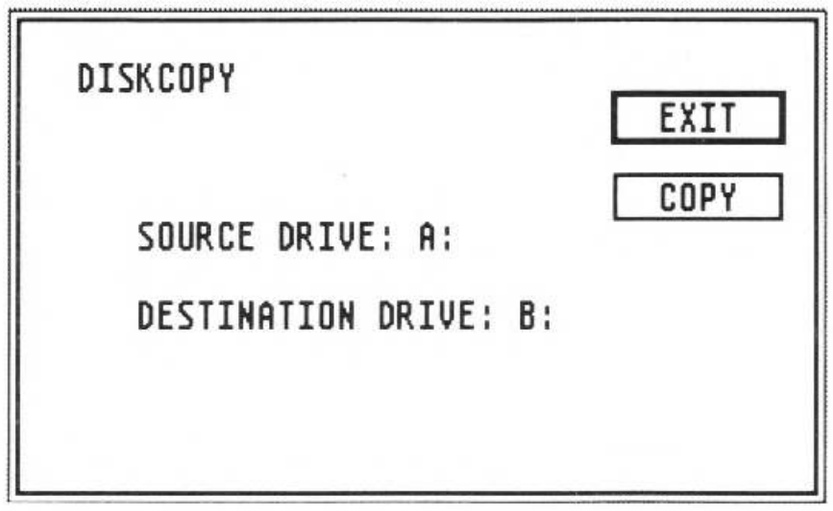
3. Drag the floppy disk A icon onto the floppy disk B icon. When the floppy disk B icon highlights, release the mouse button.



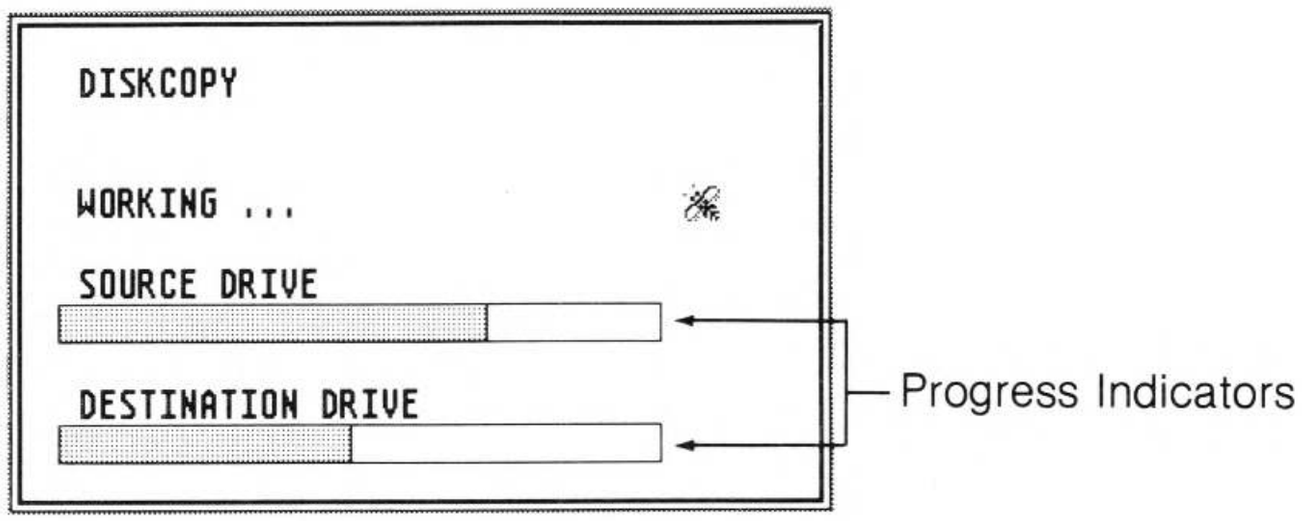
4. An alert message appears, warning you that copying disk A to disk B will erase all information on disk B.



If you have two drives, make sure your source and destination disks are in the correct drives before proceeding. Then select the OK button. The DISKCOPY box appears.



5. Select the COPY button to begin copying. If you have one disk drive, the computer prompts you (with dialog boxes) to switch disks from time to time as it copies sections of information. The DISKCOPY WORKING box monitors the copy process.



6. When copying is completed, the DISKCOPY box reappears. Select the EXIT button to return to the GEM desktop.

Note: If you have one double-sided disk drive and one single-sided disk drive, you cannot do a disk-to-disk copy using double-sided disks. To find out how to copy information from a double-sided disk to a single-sided disk, and vice versa, see **Copying Files and Folders** in **Chapter 3**.

CHAPTER 3
ICONS, WINDOWS, FILES, AND FOLDERS

Icons, windows, files, and folders are four important elements of the GEM desktop. You select an icon in order to open a window or perform some other desktop operation. Windows list the files and folders on your disks. Files contain data or programs; folders contain groups of related files.

The Disk and Trash Icons

When you first switch on your ST Computer, the GEM desktop displays three icons: two disk icons, each labeled "FLOPPY DISK," and the trash icon.







The disk icons represent your microfloppy disks, and are labeled "A" and "B" to correspond with drive A and drive B. Disk icons look like file drawers because your disks and disk drives act like the computer's filing cabinet, where you store and retrieve information when working with your ST Computer. You open the disk icons to use the items stored on your disks.

Note: For one-drive systems, your internal drive is both drive A and drive B. For two-drive systems, your internal drive is drive A and your second, external drive is drive B. For more information, see **One-Drive and Two-Drive Systems** in **Chapter 2**.

The trash icon works like a real trash can. When you want to delete a file or folder from a disk, you can drag the item to the trash icon—in effect, throwing it away. A dialog box appears confirming your action, and when you select OK, the file is erased. (For more information on using the trash icon, see **Deleting Files and Folders** in this chapter.)

Warning: The trash icon actually works like an incinerator. Once you throw something away, it's gone forever. You can't retrieve it.

Windows

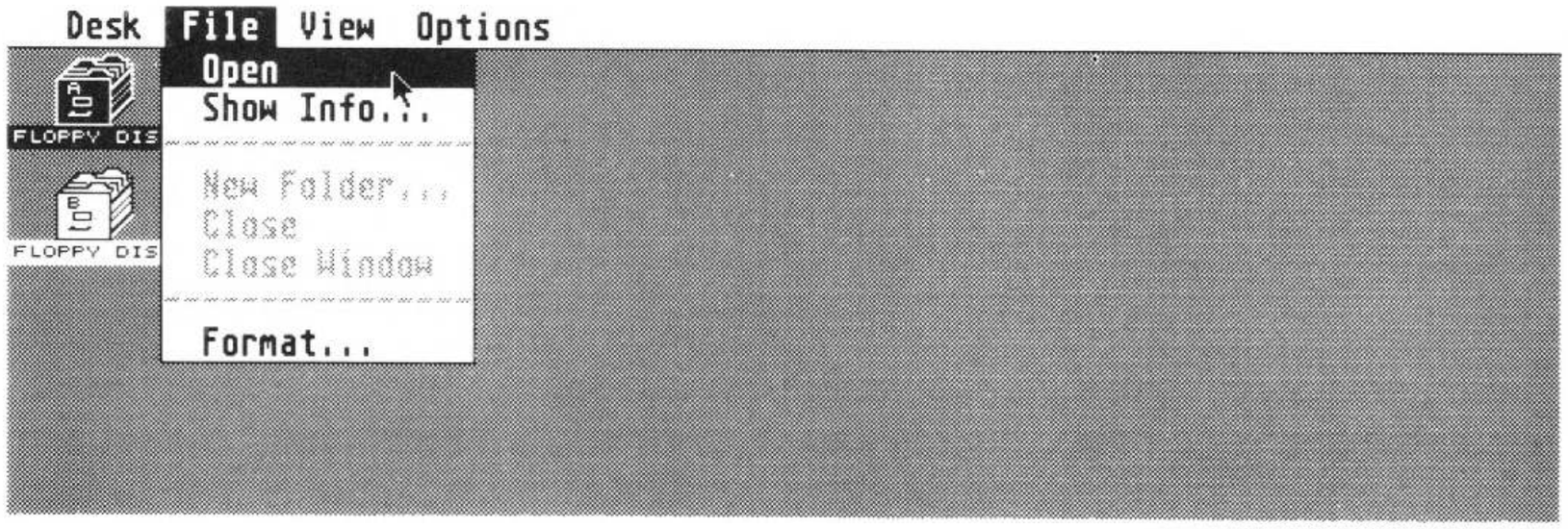
On the GEM desktop, most of the activity happens in areas called windows. Windows are small screens within the larger video screen display, and they show the files and folders contained on your disks. The GEM desktop lets you have up to four directory windows displayed on screen at one time.

Note: The windows shown in this manual are examples only. The contents of your windows may be different.

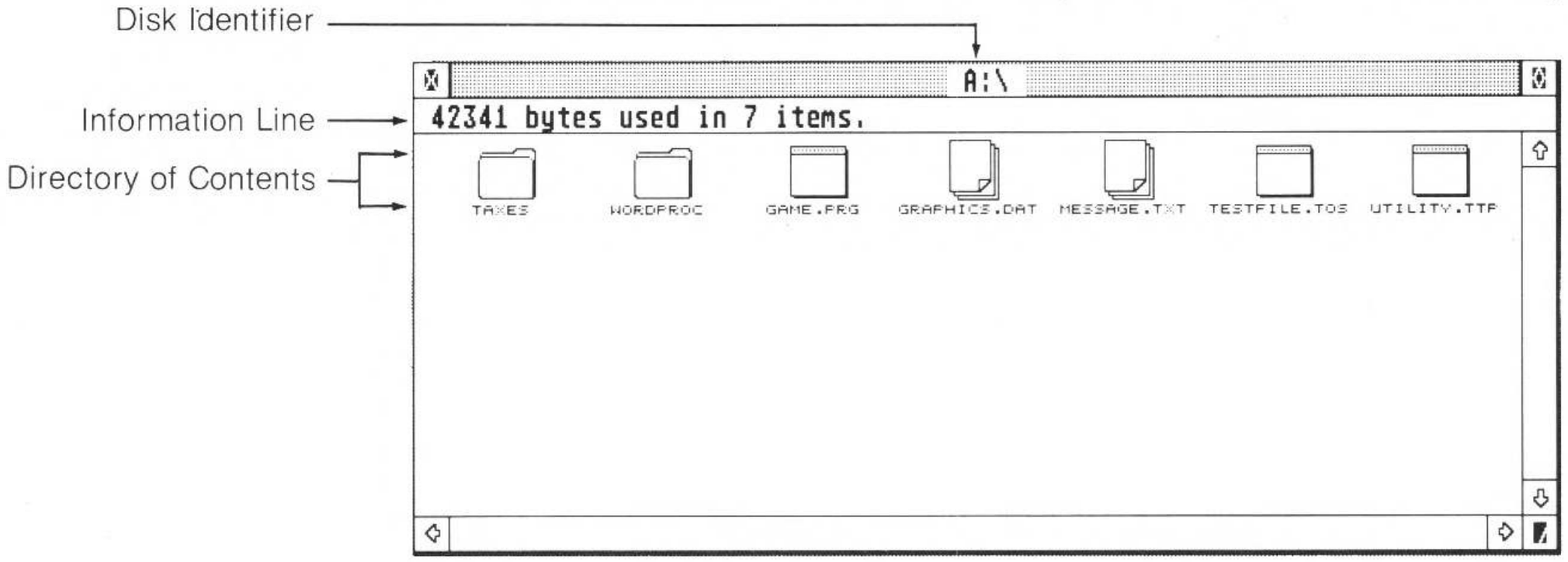
Opening a Window

You must open a window in order to look at the items on a disk. Insert a formatted disk containing data into a drive. Next, select the disk icon for that drive. Then move the mouse pointer to the File menu, and select the Open option.

Opening a Window



Another way to open a window is by double-clicking the left mouse button on the disk icon. Insert a disk into drive A, then double-click on disk icon A to open its window. When the window opens, you will see a directory of the disk's contents (or part of the directory if there are more items in the directory than will fit in the window).

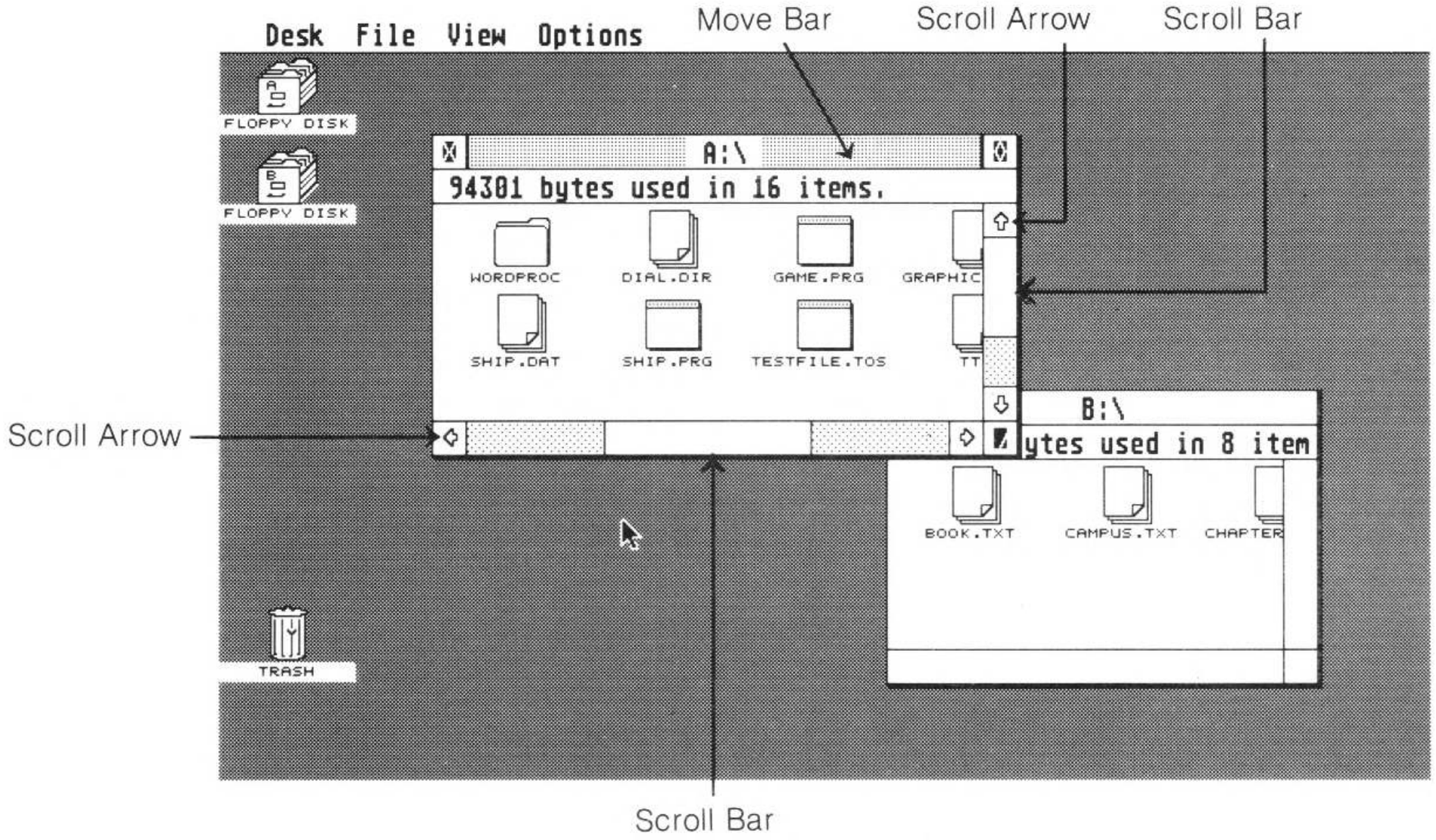


The disk identifier tells which disk you've opened by identifying the drive the disk is in. The information line gives the total number of bytes used by items listed in the directory, plus the number of items listed. (Bytes used by items contained in folders are not given in this line until you open the folder. To find out how many bytes are still free on the disk, see **Show Info** in **Chapter 4**.) The directory of contents shows an icon and name for each item in the main directory of the disk.

Note: You can display a window's directory as text rather than as icons by selecting the Show as Text option from the View menu. See **Show as Icons and Show as Text** in **Chapter 4**.

The Active Window

A window is active when its move bar is shaded and its scroll bars contain scroll arrows. The active window is the only one whose items you can select, delete, or copy. It is the only window you can move, scroll, update, or resize. You can open up to four directory windows at a time on the desktop, but only one of them will be active. You can make any window the active window by clicking the left mouse button anywhere on the window.

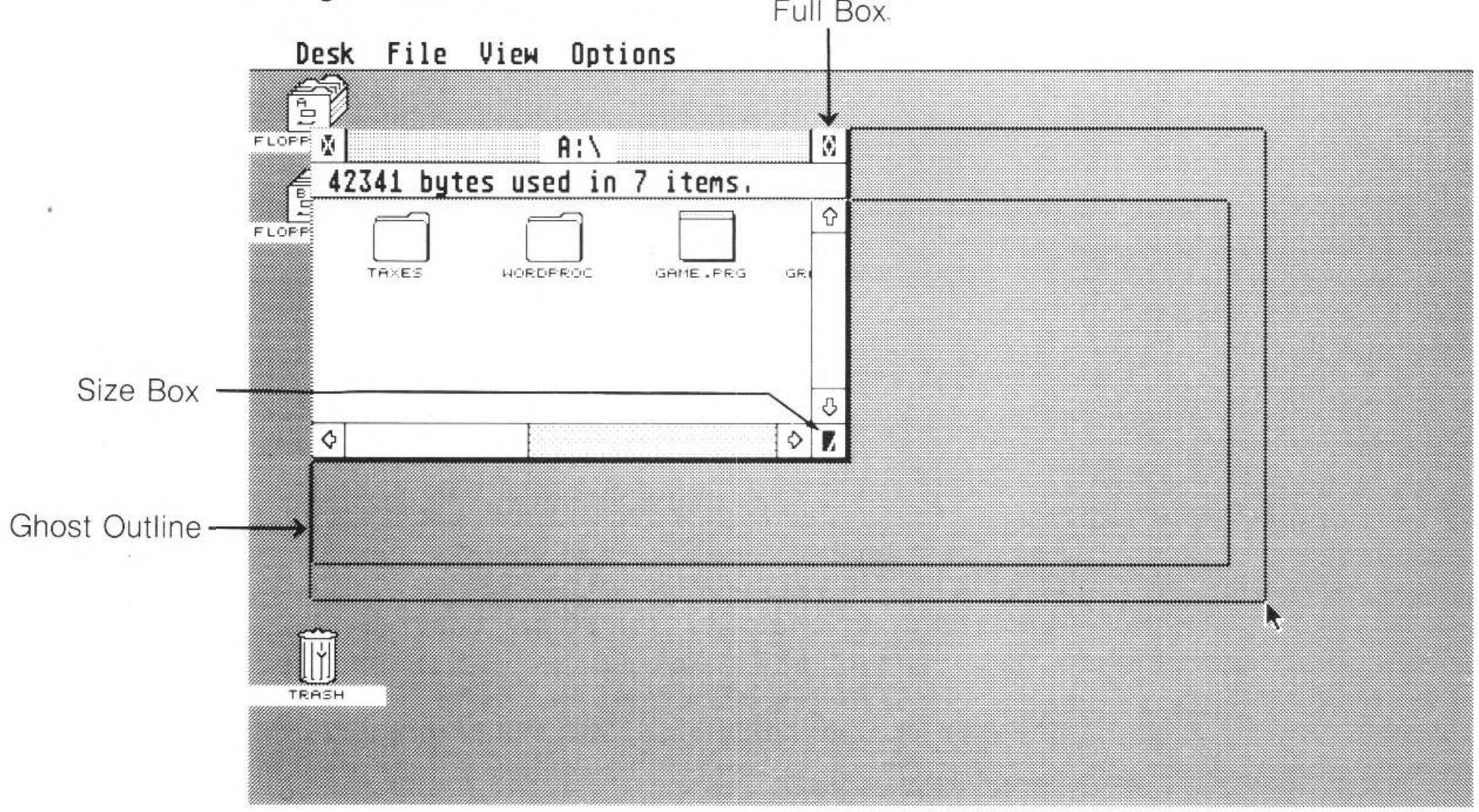


Open windows may overlap like pieces of paper. If they do, the active window is always completely displayed. If an inactive window is partly hidden by another window, it will be completely redisplayed over the other windows when you make it active.

Sizing a Window

You can change the size of an active window by using the size box in the lower right corner of the window. To size a window, drag the size box in the desired direction: move down to lengthen the window; up to shorten it; right to widen it; and left to narrow it. A ghost outline of the window follows the mouse pointer, indicating the window's eventual size. Release the button to set the window in its new size.

Sizing a Window



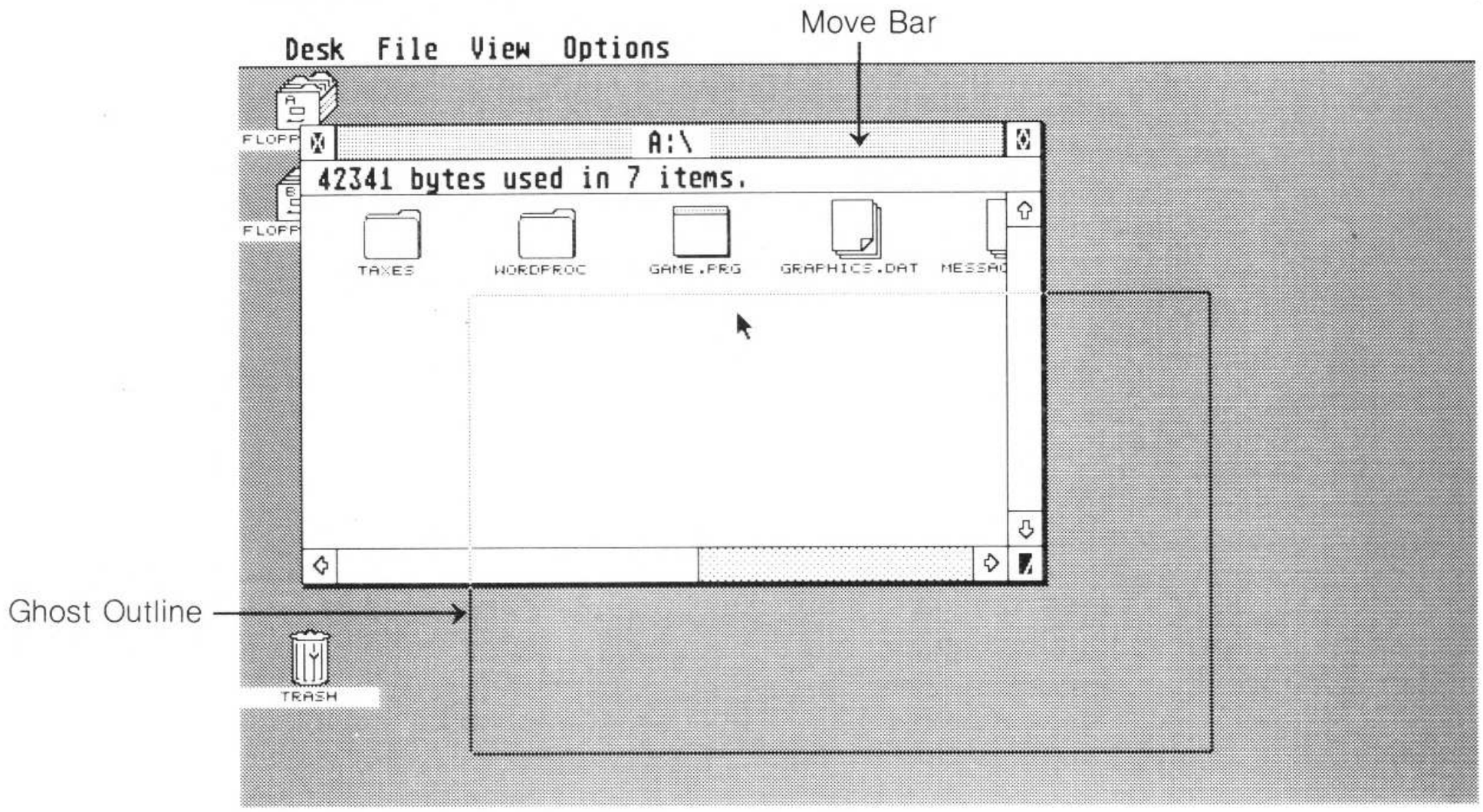
Sizing windows lets you position more than one open window on the GEM desktop (for example, to copy files from one window to another).

To quickly enlarge a window to fill the entire screen, select the full box in the upper right corner of the window. Selecting the full box again returns the window to its previous size and shape.

Moving a Window

You can move a window to any position on the desktop (except over the menu bar) by using the move bar (the shaded bar along the top of the window). To move a window, select the move bar and drag it to another location on the desktop. A ghost outline of the window follows the mouse pointer. When you release the mouse button, the window pops into its new position.

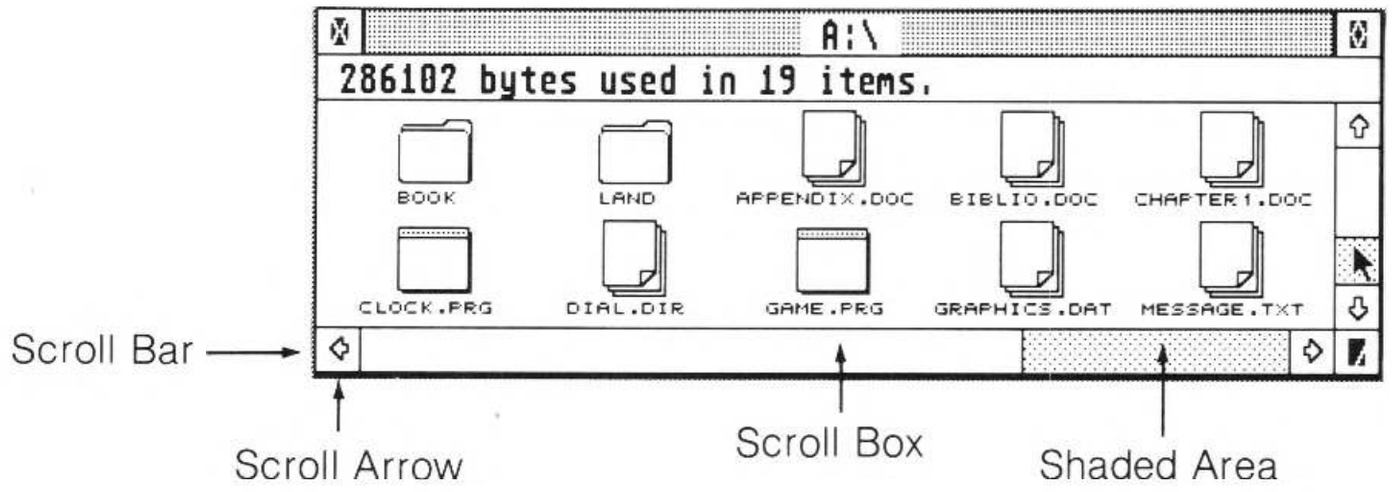
Moving a Window



Moving windows lets you position more than one open window on the desktop (for example, when you want to compare the directories of two disks).

Scrolling a Window

Sometimes a window contains more items than it can show at once. One way to look at all the items in a window's directory is to scroll the window. The scroll bars along the bottom and right edges of the window let you scroll the window horizontally (right and left) or vertically (up and down) along its directory.



A portion of the scroll bar will be shaded when items are hidden, and the scroll box will show the current position of the window relative to its total directory. For example, if the scroll box is in the middle of the scroll bar, then the window is displaying the items in the middle of the directory. The size of the scroll box, compared to the shaded area of the scroll bar, corresponds to the portion of the total directory currently in the window.

You can scroll a window by one unit (either one icon or one window display) at a time. To scroll by one icon at a time, select the scroll arrow indicating the direction of the hidden contents. To scroll by one window display at a time, select the shaded area of the scroll bar. To scroll continuously, press and hold down the left mouse button either on a scroll arrow or on the shaded area of the scroll bar.

You can quickly scroll a window by dragging the scroll box to a new position in the scroll bar. The window will now display the contents of that portion of its directory.

Note: Directory windows displayed as text cannot be scrolled horizontally. (See **Show as Icons and Show as Text** in **Chapter 4**.)

Updating a Window Directory

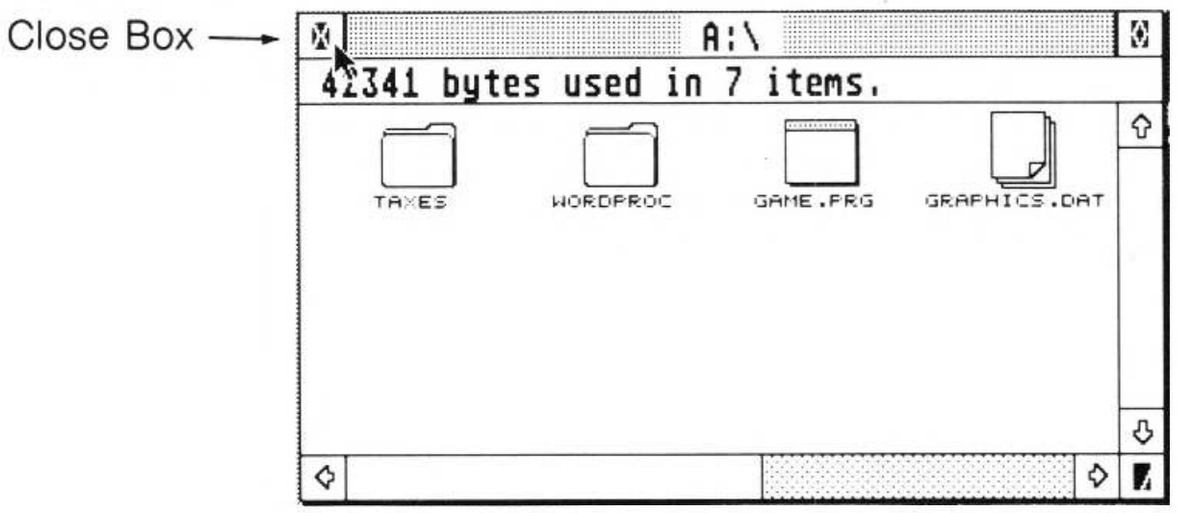
Updating a window directory is a way to make sure the window is displaying the actual items on the disk. For instance, if you open disk A's window, and then insert a different disk into drive A, the directory in the window will not automatically show the items on the new disk. To update a window's directory, first activate the window, then press **[Esc]**.

Note: If you open a folder, and then insert a different disk in the drive, you must close the folder before you can update the window. To close a folder, select the close box in the upper left corner of the window. For more information, see **Close and Close Window** in **Chapter 4**.

Closing a Window

To close the active window, select the close box in the window's upper left corner. The window will disappear from the screen. If another window is open, it will become the active window. (If more than one window is still open, the last window opened will become the active window.)

Closing a Window



You can also close an active window by moving the pointer to the File heading in the menu bar, then selecting the Close Window option. (For more information, see **Close and Close Window** in **Chapter 4**.)

Files

Types of Files

The ST Computer stores two types of files on disk: program files and data files. On the GEM desktop, the two types of files are represented by different icons.



Program File Icon

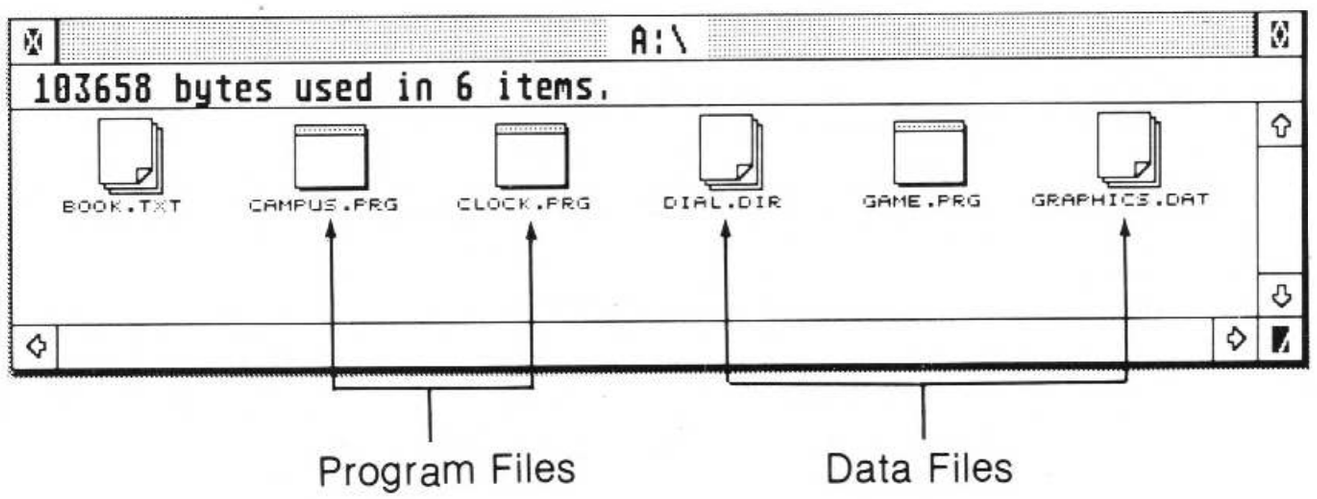


Data File Icon

The icon that looks like a small desktop is the program file icon, representing an applications program that you can run. That is, the program is executable. An example of an applications program is a word processor.

The icon that looks like a stack of paper with one corner folded over is the data file icon. Data files contain the data used by applications programs, such as the text you use with your word processor.

You will have as many file icons in your directory as you have files on your disk. Each icon will have a different filename listed under it.



Folders

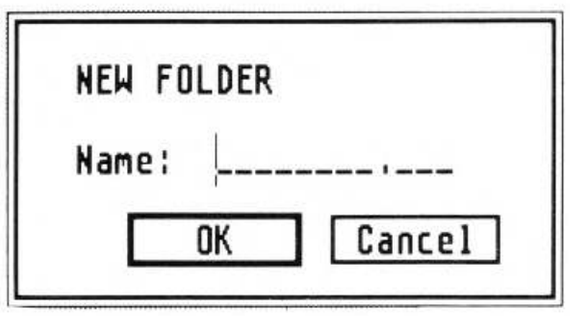
Folders are part of your filing system, providing you with a way to keep related files together. Folders have their own icon, which looks like a manila folder.



Folder Icon

Folders hold data and program files, and other folders. If you have a number of related files, you can place them inside one folder to keep them together. You can also put folders and files within other folders. The operating system, TOS, allows up to eight levels of folders within folders.

To create a folder, first activate the window for the disk you want. Then select the New Folder option from the File menu. The following dialog box appears:



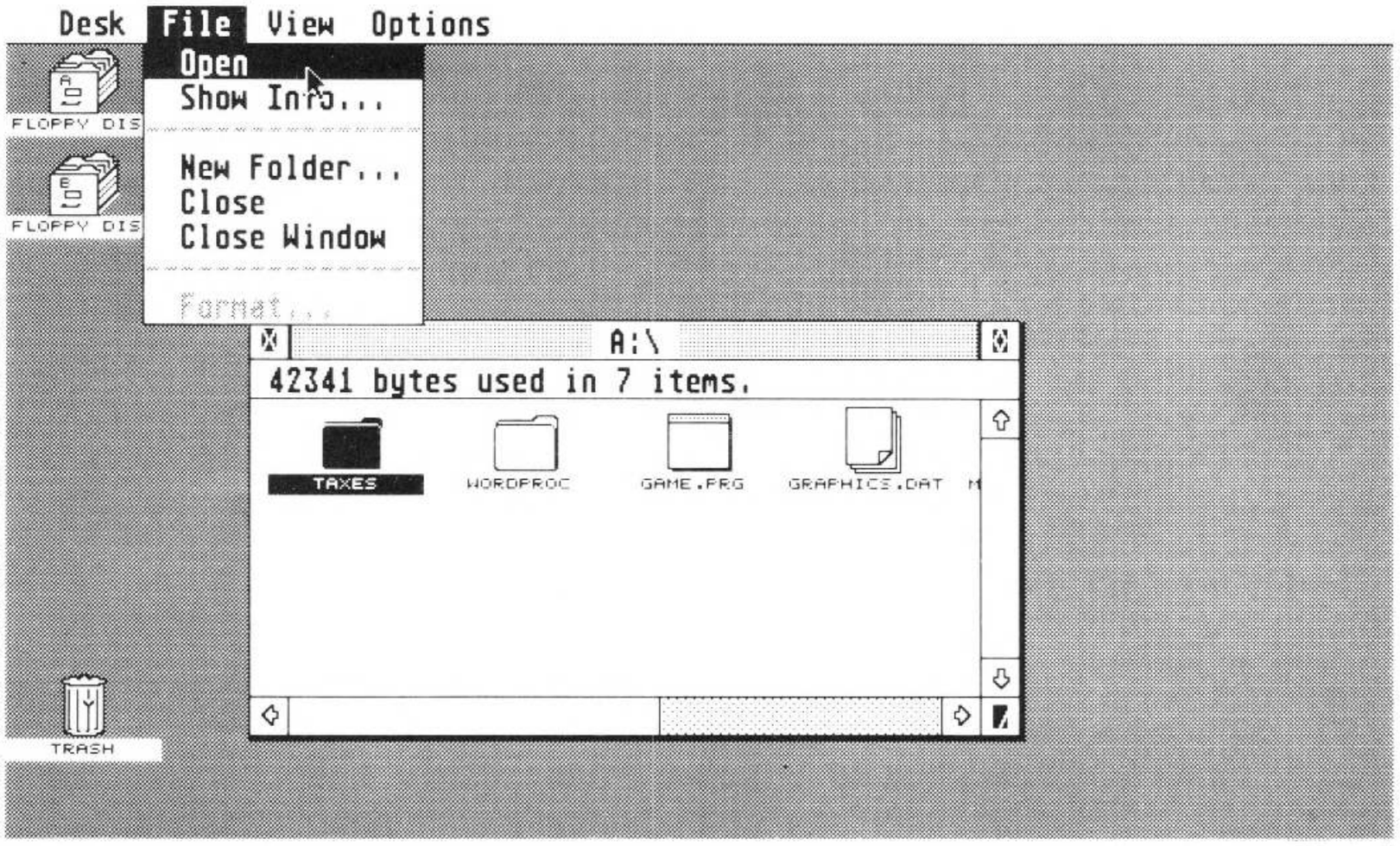
Type in a name for the folder and select the OK button (or press **[Return]**). Like filenames, folder names can have from one to eight characters, optionally followed by a period (.) and a three-character extender. (However, unlike files, folders cannot be renamed from the GEM desktop.) The new folder is created on your disk and the active window is updated to list it in the directory.

Warning: Never have more than 40 folders total at one time on all drives (including a hard disk, if connected).

Opening a Folder

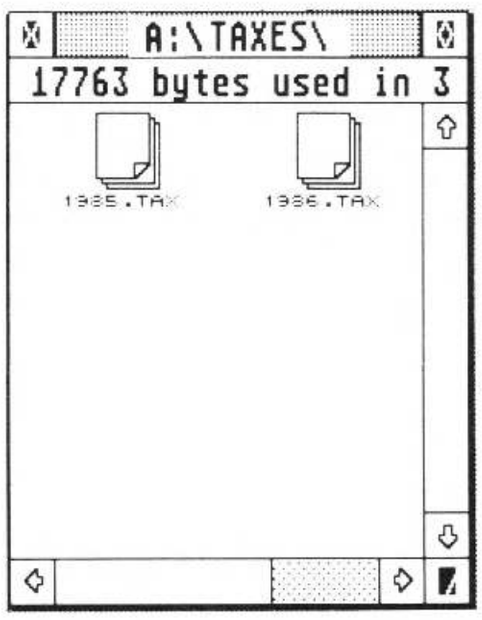
Every folder can be opened to its own window so that you can view the items it contains. To open a folder, either double-click the left mouse button on the folder's icon or select the folder icon, then select the Open option from the File menu.

Opening a Folder



When a folder opens, the folder directory replaces the disk directory in the window, and the name of the folder is appended to the disk identifier. Once a folder is opened, the files (and other folders) it contains can be accessed.

Sample Open Folder



A newly created folder will be empty. Information on how to copy files into folders is given in the next section, **Managing Files and Folders**.

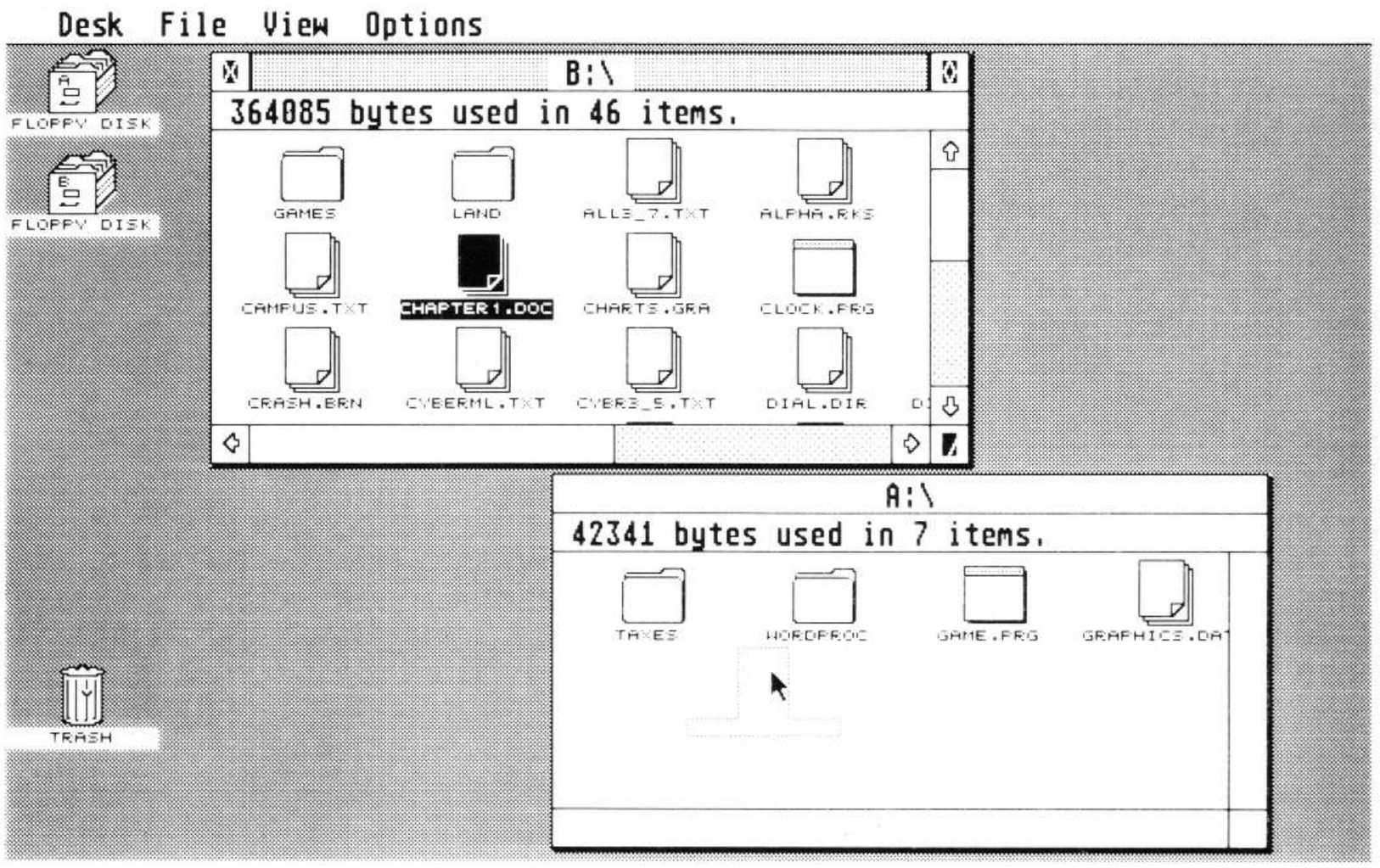
Managing Files and Folders

Copying Files and Folders

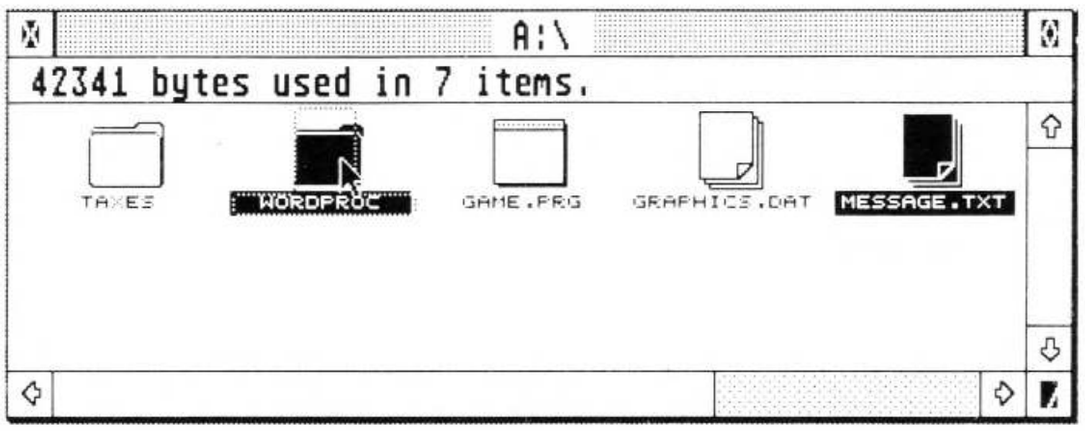
On the GEM desktop, you can copy files and folders onto another disk or into a folder. When you copy a file, you copy a single item. When you copy a folder, all its contents (files and other folders) are copied to the new position.

To copy an item, select the item and drag it to its new position on the desktop. You can drag an item to another window, disk icon, or folder icon. (If you drag the item to a disk or folder icon, the icon highlights when the mouse pointer is positioned on it correctly.)

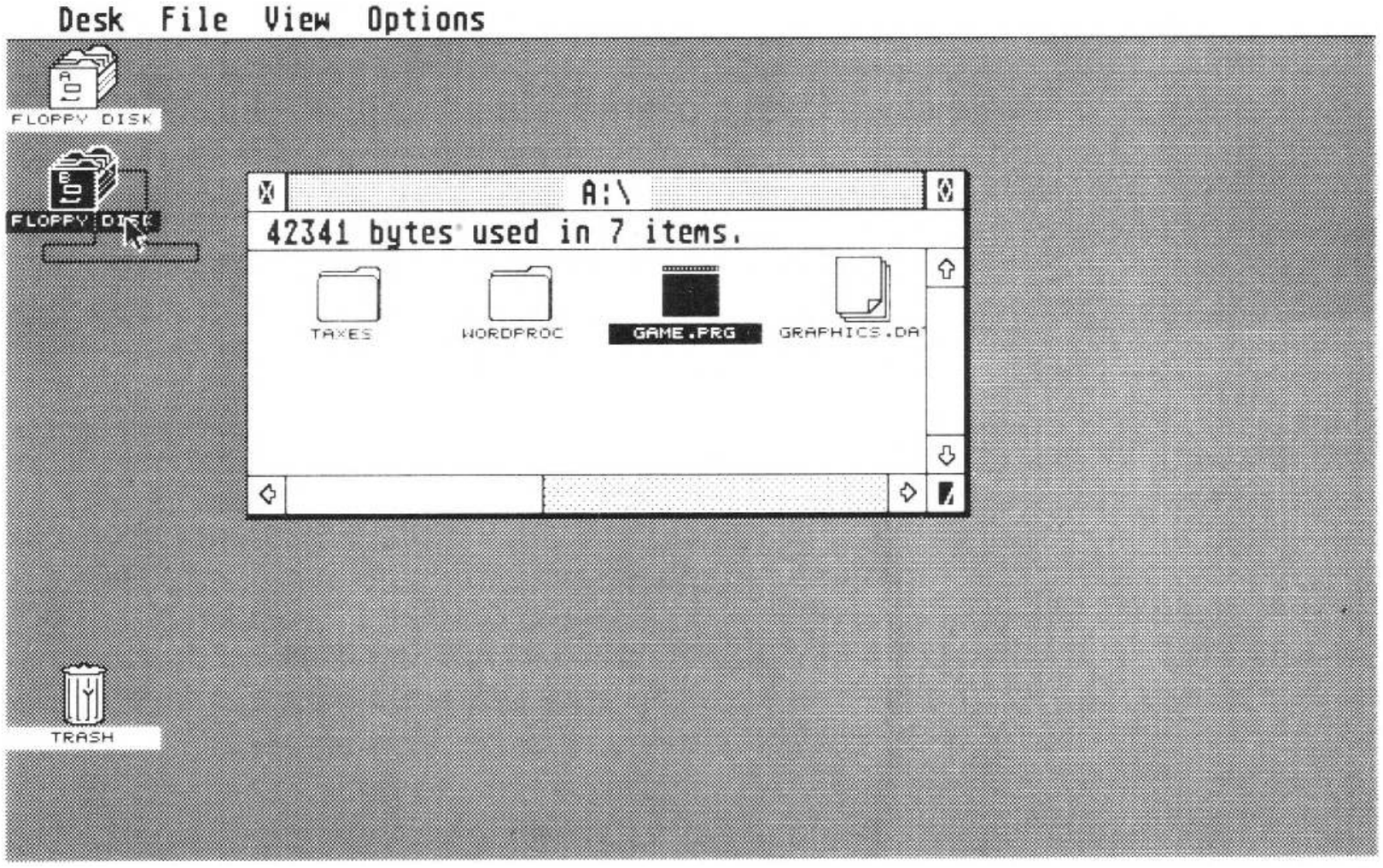
Copying a File from One Window to Another



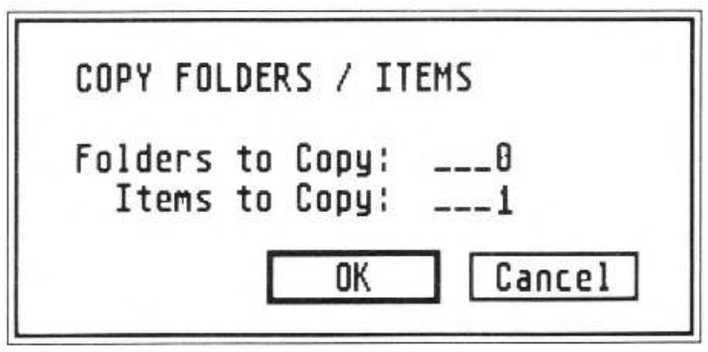
Copying a File into a Folder



Copying a File to a Disk



When you drag an item to a new position and release the mouse button, a dialog box appears:



Select OK to continue the copy procedure (or select Cancel to stop it). With one-drive systems, the computer will tell you (with dialog boxes) when to switch disks in order to complete the copy procedure.

Note: If the dialog box does not appear, the Confirm Copies option has been turned off. See **Set Preferences** in **Chapter 4** for more information.

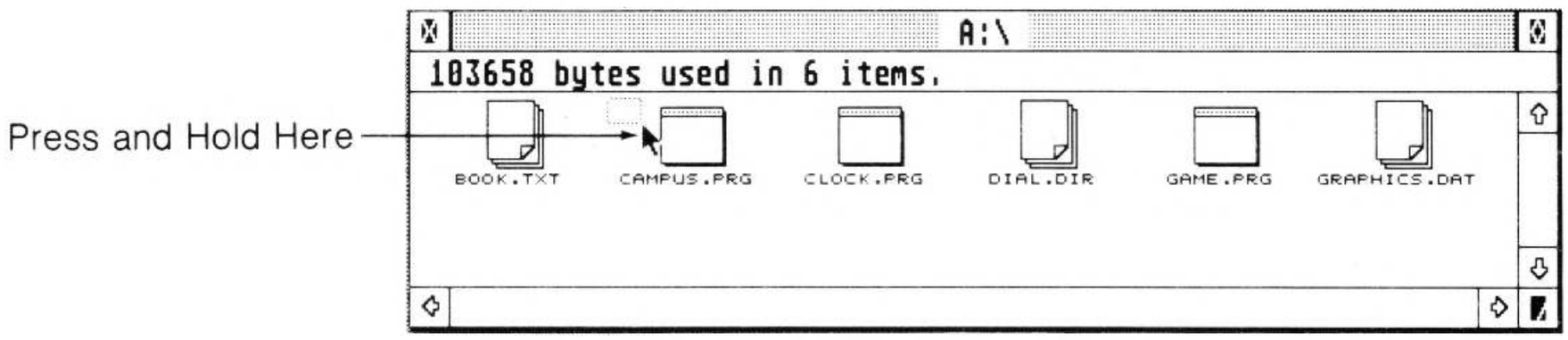
Selecting Multiple Items

Sometimes you will want to copy or delete more than one item at a time. There are two ways to do this: by using the rubber-band box or by shift-clicking.

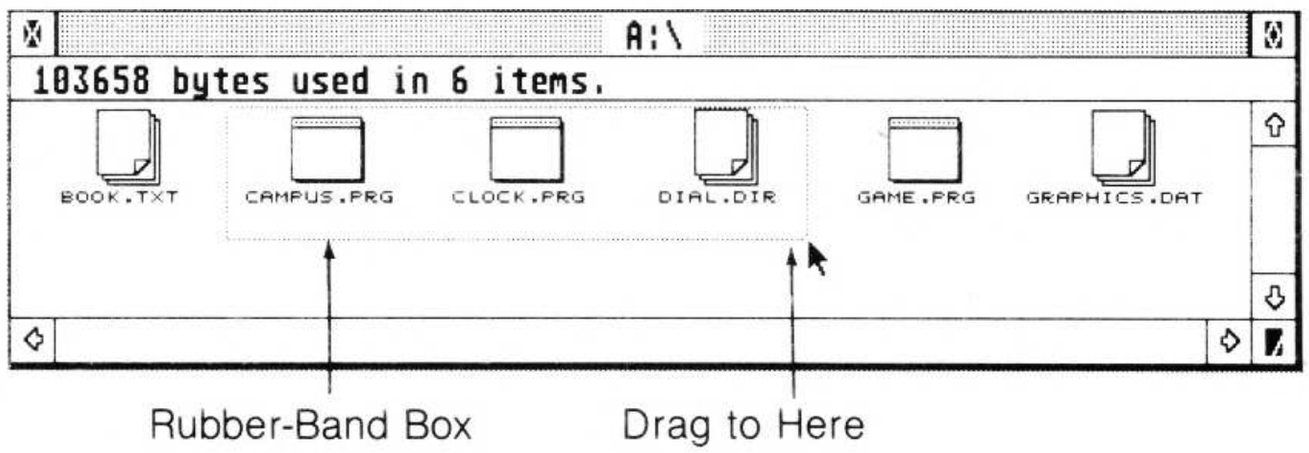
Selecting with the Rubber-Band Box

The rubber-band box lets you select a group of items that are in sequence on the desktop. Position the mouse pointer to the left of (nearby but not touching) the first item you want to select. Press and hold down the left mouse button, then drag the pointer down and to the right, across all desired items. As you drag the pointer, a lasso-like box will form around the items. Release the mouse button. Every item inside the box will be selected.

Positioning the Pointer

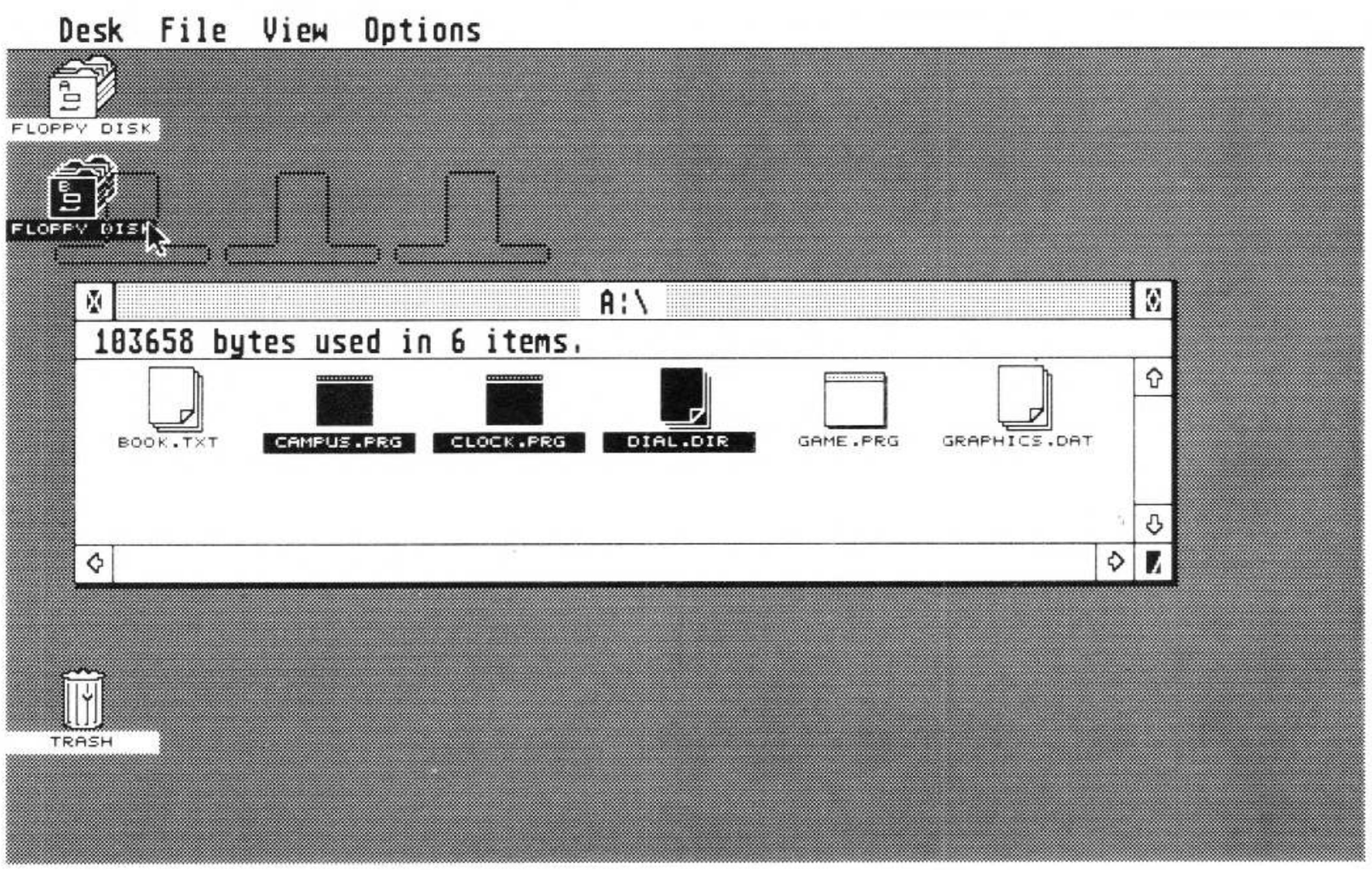


Dragging the Pointer



Once the items are selected, position the pointer on one of them, then drag it to another window or icon, or to the trash can. Ghost outlines of all selected items will appear, and will be dragged along with the pointer.

Dragging a Group of Selected Items

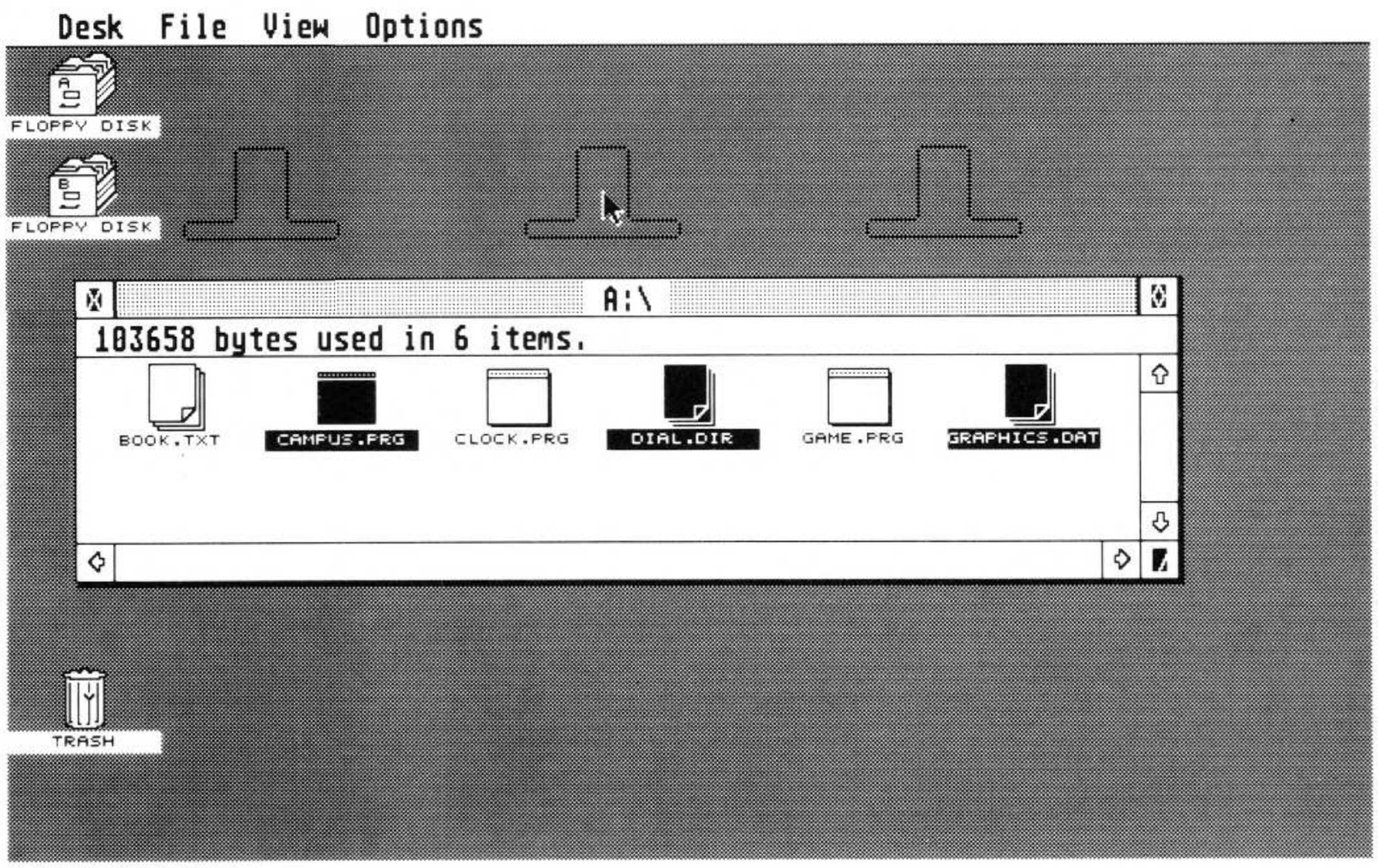


When you release the mouse button, all items will be copied to the new spot, or deleted, depending on where they were dragged.

Selecting by Shift-Clicking

Shift-clicking lets you select a group of items that are not in sequence on the desktop. Press and hold down the **[Shift]** key, then select the first item. When the item highlights, move the mouse pointer to the next item and select it. When all items are selected, release the **[Shift]** key. Then move the mouse pointer to one of the selected items and drag it to its destination. Ghost outlines of all selected items will follow the pointer, and will be copied or deleted, depending on where they are dragged.

Selecting and Dragging Multiple Items by Shift-Clicking



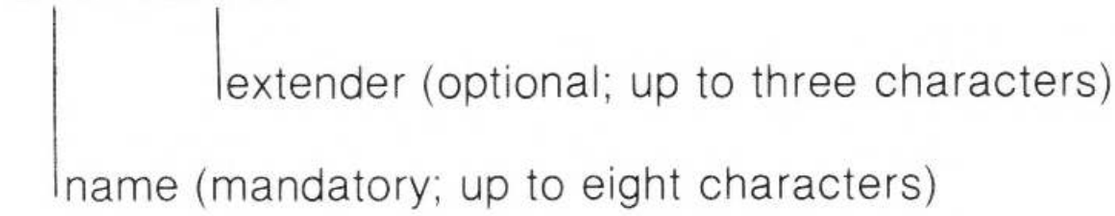
Note: You can combine the two methods, rubber-banding and shift-clicking, to select a group of items, then deselect any items in the group that you don't want to copy or delete. First use the rubber-band box to select a group. Before dragging the group, go through the items and shift-click on those items you want to omit from the group. Shift-clicking on items already selected will deselect them. (To reselect an item, shift-click on it again.) Then drag the group to a window, icon, or the trash can to copy or delete.

Filenames, Directories, and Pathnames

Filenames are the names given to files, either by you or by the software developer. Directories are the lists of files and folders that appear in a directory window. Pathnames identify the disk and folders that were opened to reveal a directory.

Filenames

A filename is made up of two distinct parts: the name and the extender.



A file must have a name in order to be listed and identified. A name can have from one to eight characters (letters or numbers) and may include the underline symbol (_). Names usually are clues to the specific information in the file, such as TAXES for tax information, or TAXES85, TAXES86, TAXES87 for a series of tax information files.

An extender is optional and can have from one to three characters (letters or numbers). A period (.) always divides it from the name. An extender often indicates the type of a file. For example, the .PRG extender indicates to TOS that the file is a GEM application and that it should be represented by the program file (small desktop) icon. If you were to remove the extender (by using the Show Info option in the File menu), TOS would not recognize the file as an application and would give it the data file icon.

Many applications use specific extenders to represent specific types of data files. For example, word processors often use .DOC as an extender for document files.

When you sort files by type, they are arranged alphabetically by their extenders (see **Sort by Name, Date, Size, and Type** in **Chapter 4**).

Four common extenders and their meanings are listed below:

.APP GEM application

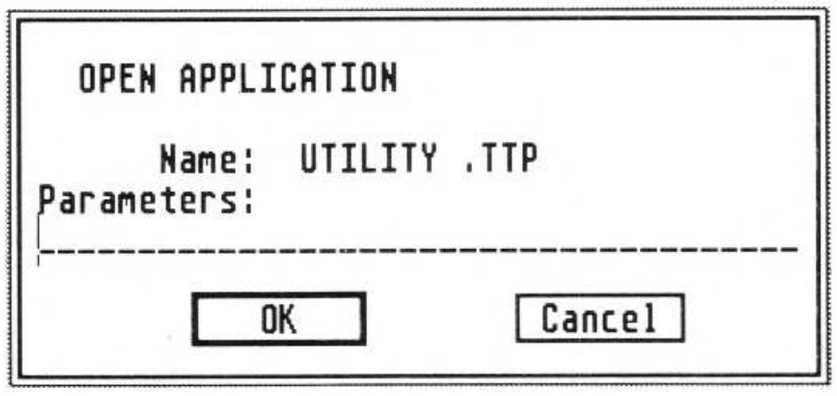
.PRG GEM application

.TOS TOS application

.TTP TOS-takes parameters application

These extenders indicate the three types of program files (files that can be run from the desktop). Program files are represented by the small desktop icon and are run by double-clicking on the icon (or selecting the icon and selecting Open from the File menu).

An .APP or .PRG file is a GEM application and will usually take advantage of the GEM environment by using windows, icons, and drop-down menus. A .TOS file is a non-GEM application. It does not use the GEM environment and may not even use the mouse. A .TTP file is a .TOS file that expects some typed parameters (data that will control the program's operation). When you open a .TTP file, a dialog box appears requesting you to enter the parameters. Consult the program's documentation for more information.



Note: You can install an application as a different type than its extender indicates it to be. For information, see **Installing an Application** in **Chapter 6**.

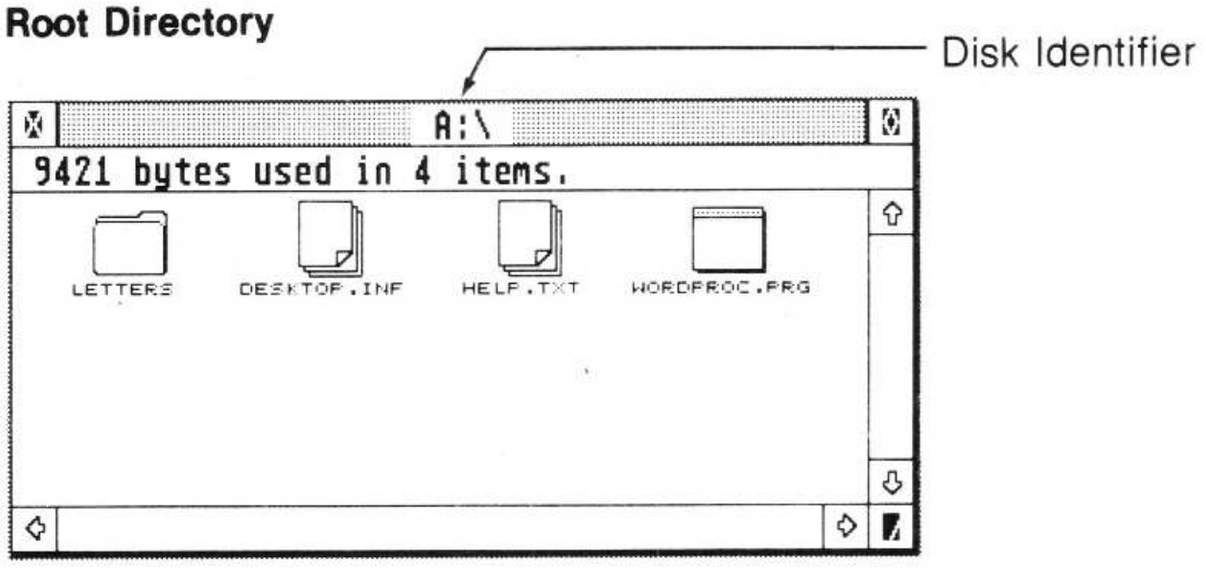
Folder Names

Folder names follow the same naming constraints as filenames; however, extenders on folder names have no significant meaning to TOS.

Directories and Pathnames

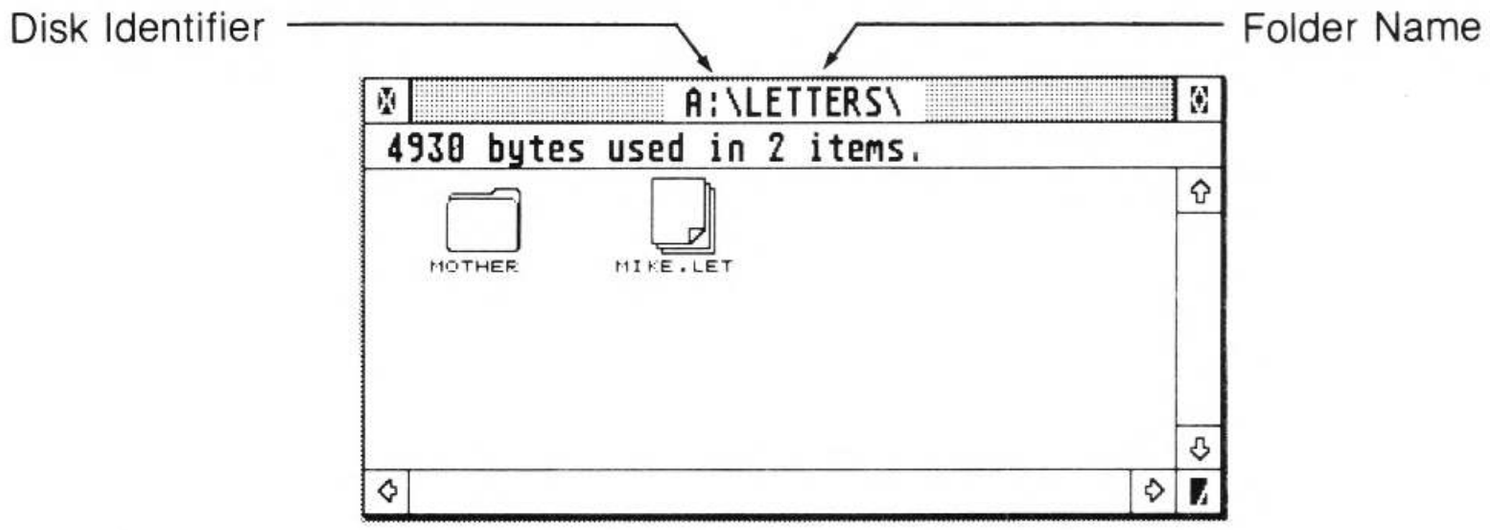
A newly formatted disk has one directory, called the root (or main) directory. The root directory is the first directory you see when you open a disk icon. It is identified by the disk identifier (A: \ for the disk in drive A, and B: \ for the disk in drive B) in the move bar of the window. The disk identifier below shows the root directory of a disk in drive A.

Root Directory



If you now open a folder named LETTERS from the disk in drive A, you enter a subdirectory:

Subdirectory Within a Root Directory



A subdirectory is a directory residing within another directory. A folder is a subdirectory within the root directory, and a folder within a folder is a subdirectory within a subdirectory. When you open the folder named LETTERS, the name of the folder is appended to the disk identifier. A disk identifier and folder name listed together are called a pathname.

Pathnames are of the form:

drive: \ folder \

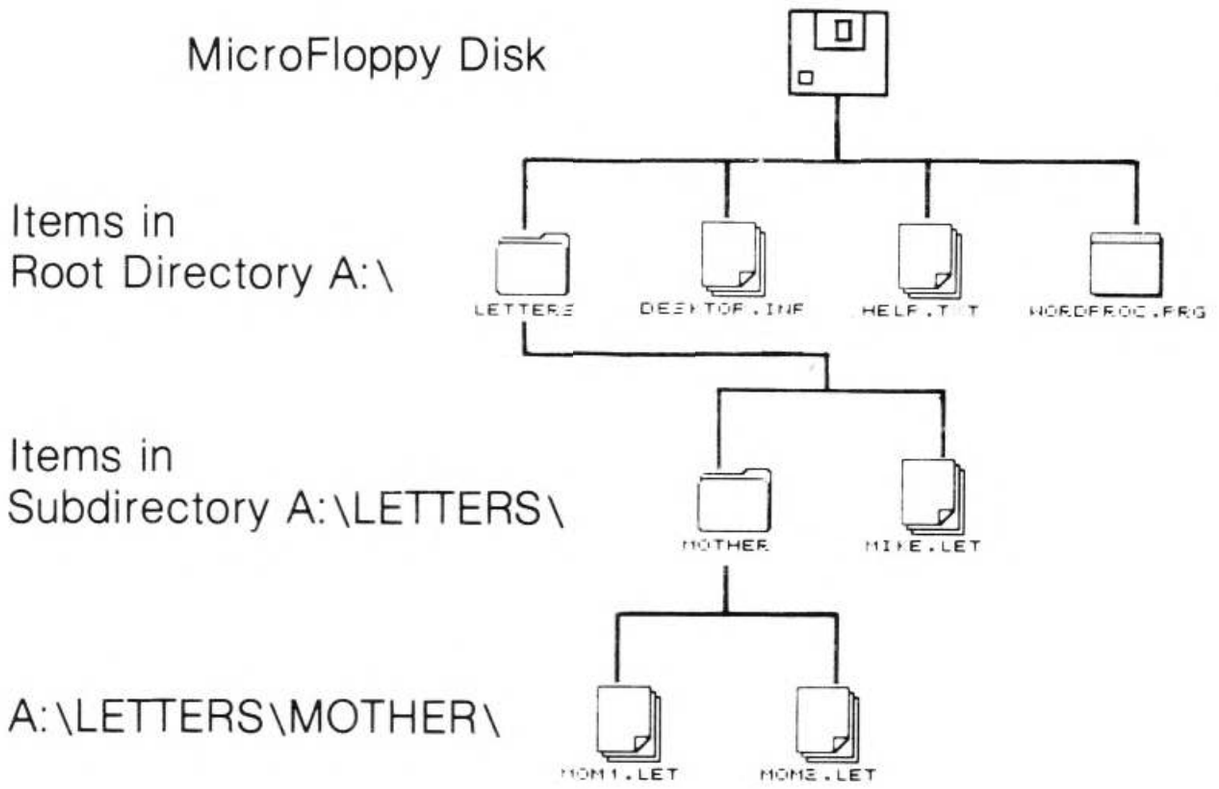
where drive: \ is the disk identifier for the root directory and folder \ specifies a subdirectory. Each component of the pathname is separated by a backslash (\). The pathname for the subdirectory of the folder named LETTERS is A: \ LETTERS \ . The pathname tells TOS which path to take to get to a particular file.

If you now open a folder named MOTHER within the folder named LETTERS, you enter another subdirectory. Notice how the pathname changes to reflect this:

Subdirectory Within a Subdirectory



A chart of the hierarchy of the disk looks like this:



For more information on pathnames, see **Using the Item Selector** in **Chapter 6**.

CHAPTER 4
THE MENU BAR

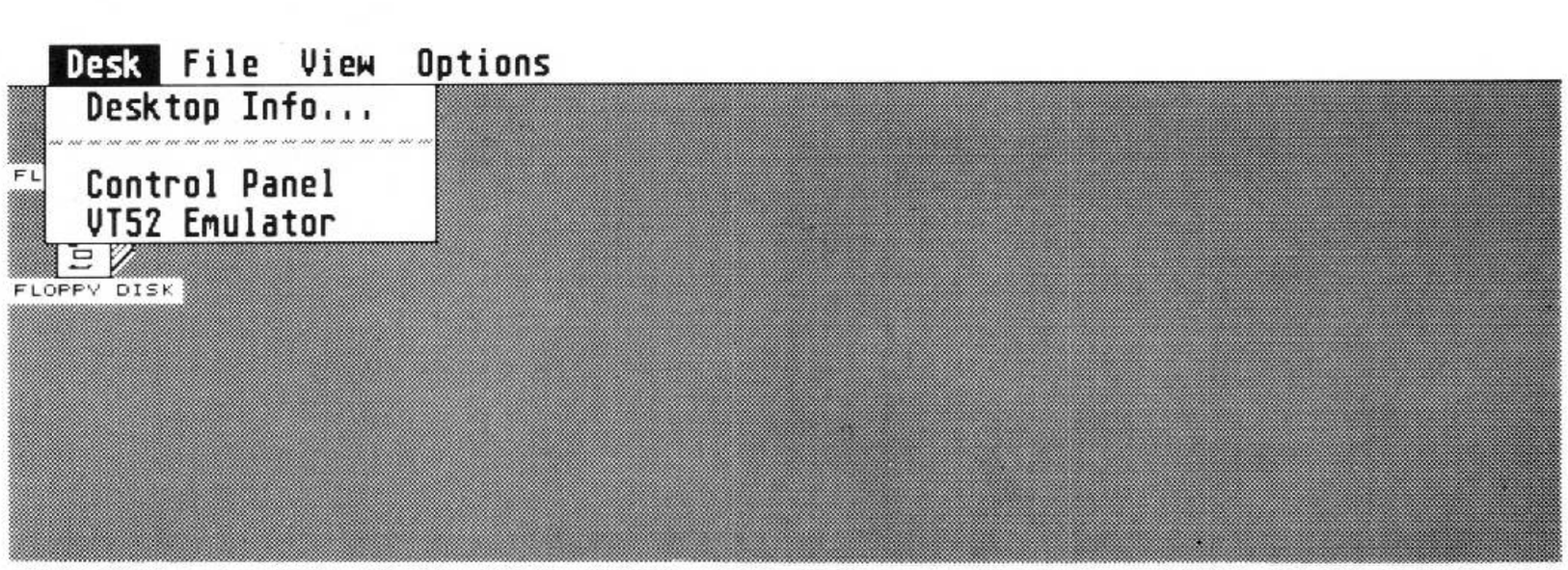
The menu bar is located along the top edge of the GEM desktop. The menu headings are Desk, File, View, and Options. To see the options within any menu, point at the menu heading with the mouse pointer. The heading highlights and the menu automatically drops down.

You can now select a menu option. Options in black text are active; they are available for use. Options in light grey text are inactive; they are not available for use at the time you drop down the menu. If an item is inactive, you may have to select an icon on the desktop in order to activate it. (See the specific option in this chapter for more information.)

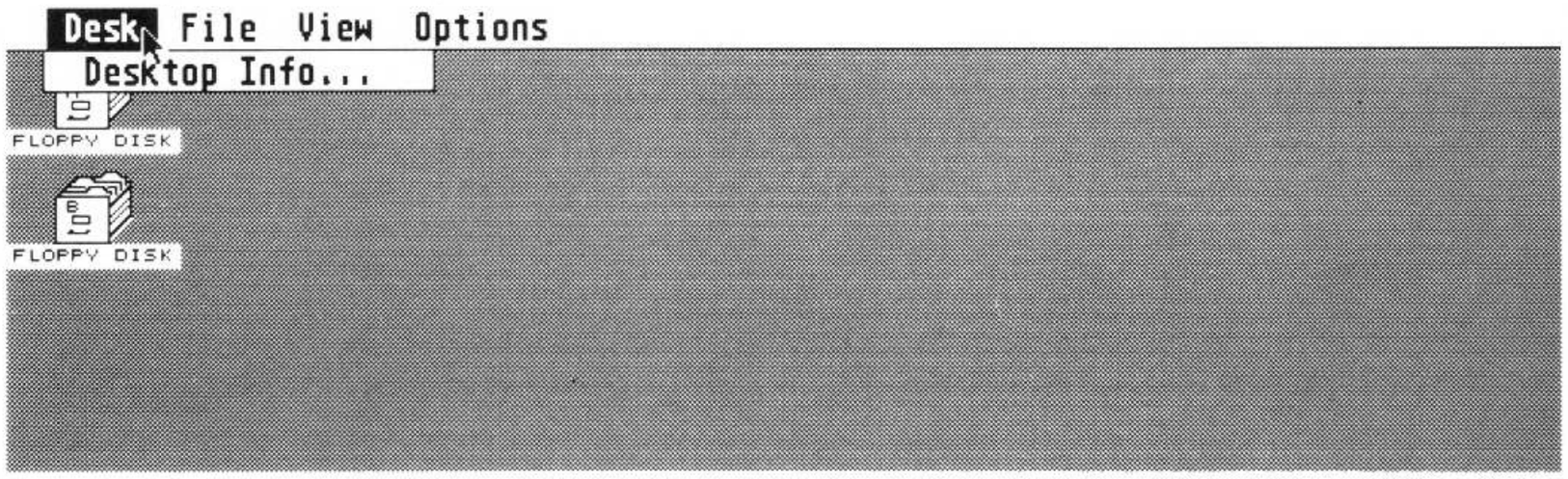
Desk

The Desk menu contains the desk accessories. (Desk accessory files must be on the disk in drive A when you switch on your computer. They always have the extender .ACC.) The menu may also contain information about the application you are currently running.

You can access desk accessories from this menu at almost any time, provided you are using the GEM desktop or another application that uses the GEM menu bar. Depending on the desk accessories you loaded, you will have different options available under this heading. The standard set of desk accessories includes the Control Panel and the VT® 52 Emulator. (For more information on those desk accessories, see **Chapter 5**.)



If you switch on your computer without using a disk, or with a disk in drive A that does not have desk accessories on it, the Desk menu will contain only one item, Desktop Info.

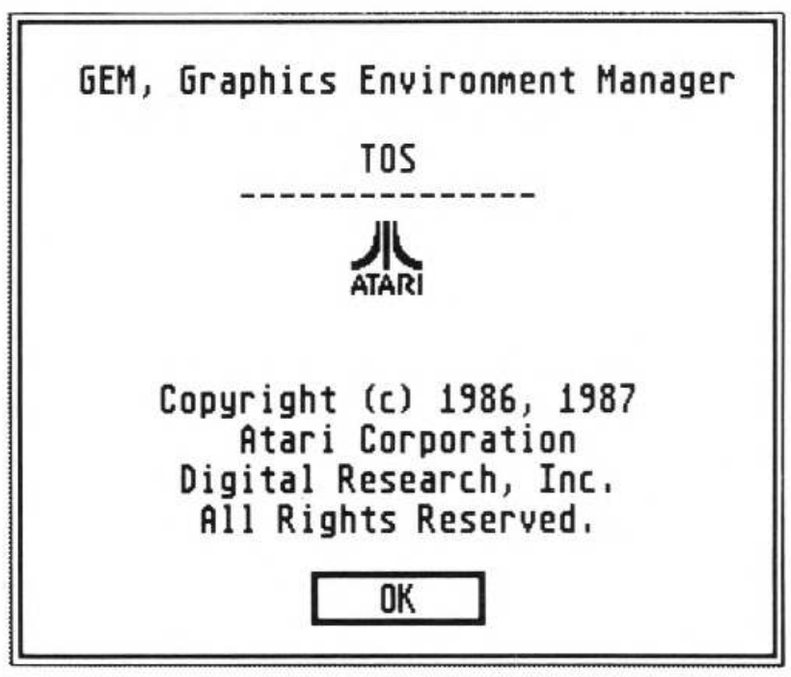


Switching on the computer without desk accessories frees some of the computer's memory and displays the GEM desktop faster. However, if you want to use the desk accessories later, you will have to restart your system.

Desktop Info

The Desktop Info option is the billboard for the desktop, displaying GEM and TOS copyright information. Most GEM applications will display this kind of identifying information in an option under the leftmost menu heading (usually Desk) on the menu bar.

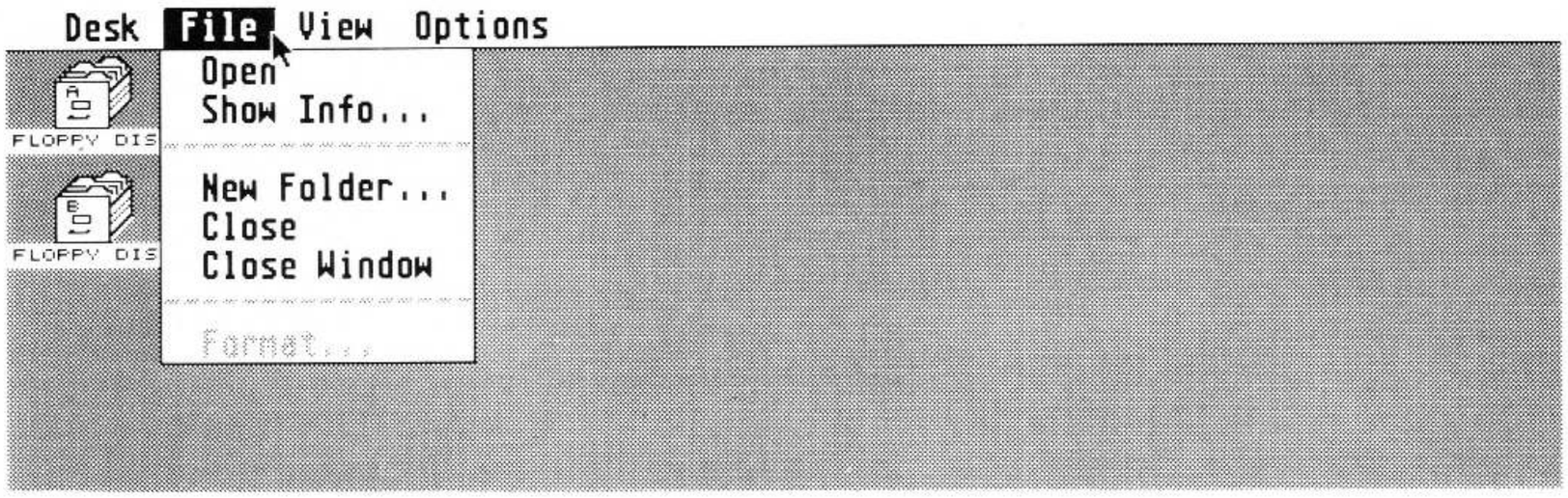
Select Desktop Info. The following dialog box appears:



Select the OK button to return to the GEM desktop.

File

The File menu contains options that enable you to manipulate your files, manage your windows, create folders, and format disks.



Open

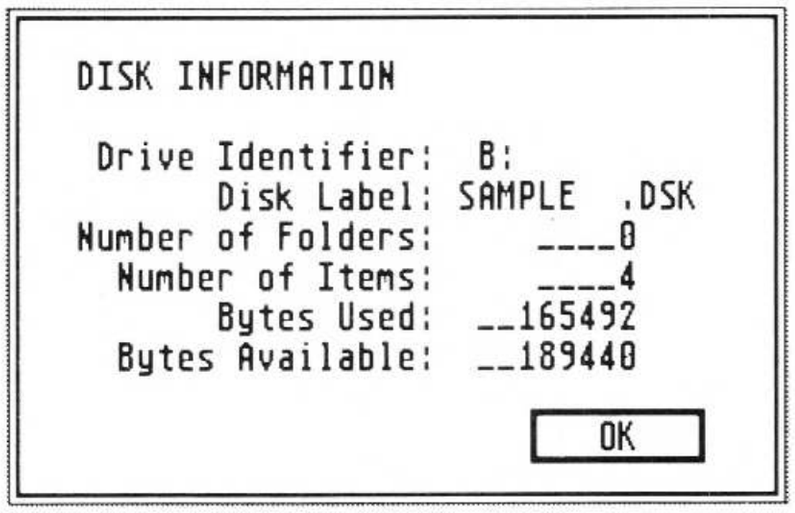
The Open option is used to open a disk icon or a folder, run an application, or show or print the contents of a data file. To open an item, select the item, then select the Open option from the File menu. You must first select an item to open in order for this option to be active.

An alternative to using the Open option is to double-click the left mouse button on an item. Doing this selects and opens (or runs) the item in one operation.

Show Info

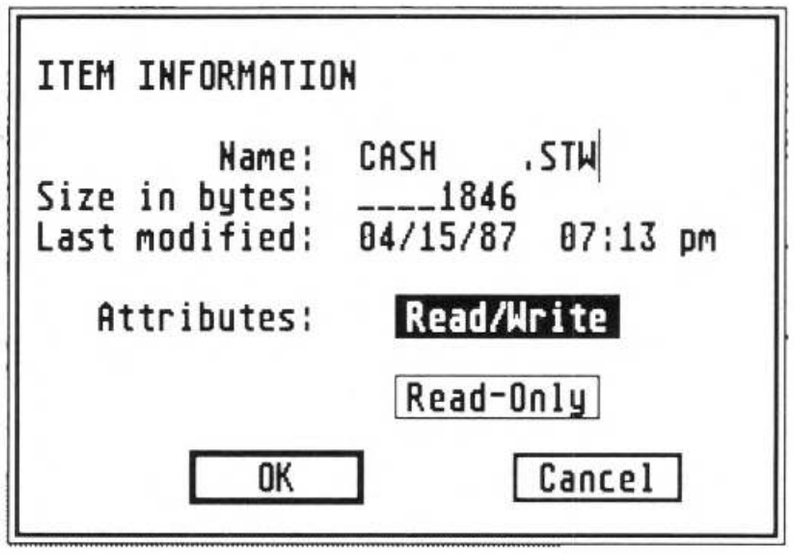
When you select a disk, file, or folder icon and then select the Show Info option, the screen displays information about the selected icon. Dates and times listed in Show Info dialog boxes are determined by the clock/calendar set from the Control Panel.

The Show Info dialog box for a disk icon looks like this:



Note: In the Show Info dialog box for a disk, the number of bytes used plus the number of bytes available does not always equal the exact storage capacity of the disk. This is because the ST Computer allocates space for each file in fixed-size blocks, even if the file does not completely fill the last block. Show Info's Bytes Available information is your best monitor of available disk storage space.

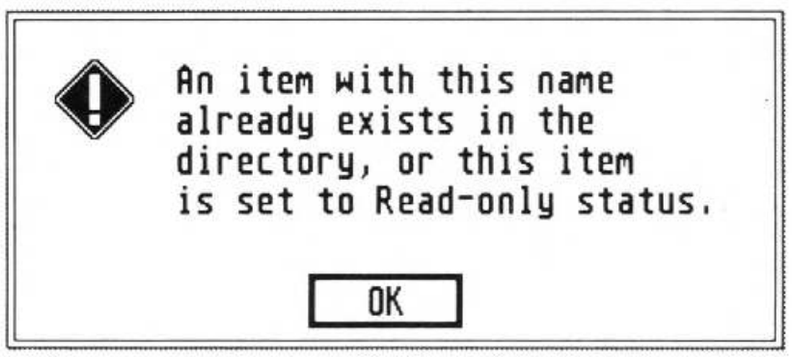
The Show Info dialog box for a file identifies the file and gives its size, date and time last modified, and the Read/Write or Read-Only attribute.



You can rename a file within the Show Info dialog box. First make sure the file is set to Read/Write (see the following paragraphs). Then press **[Backspace]** or **[Esc]** to delete the filename, type a new name, and select the OK button (or press **[Return]**). The file will be renamed and the new filename will appear in the disk directory.

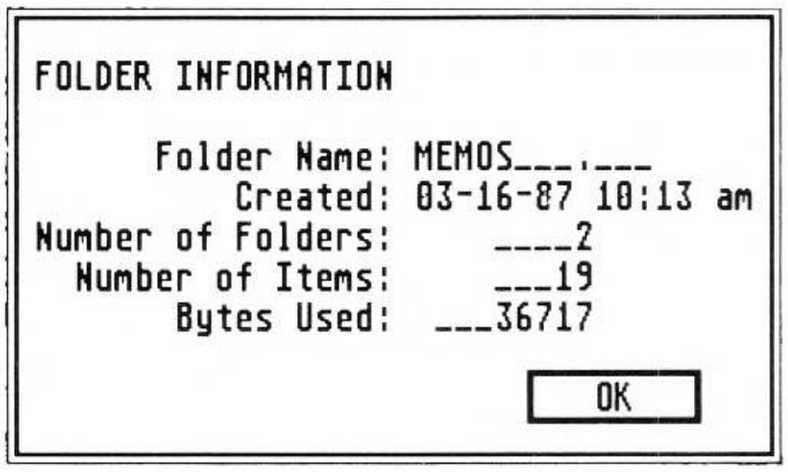
The Read/Write and Read-Only buttons indicate the file's attribute. Read/Write is the normal option; when selected, it allows you to modify or delete the file. Read-Only works like a write-protect tab for individual files; when selected, it protects files from accidental modification. Select either attribute, then select OK (or press **[Return]**).

When a file is set to Read-Only, you cannot change, rename, or delete it. If you try, the following alert message appears:



To modify the file, change its attribute back to Read/Write.

The Show Info dialog box for a folder gives the folder's name, the date and time it was created, the number of folders and items held in the folder, and the folder's size in bytes.

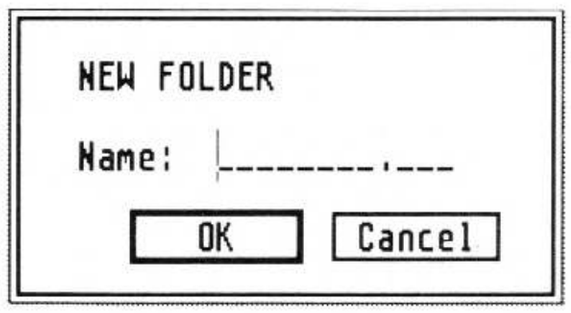


Note: You cannot rename a folder within the Show Info dialog box.

New Folder

Folders are organized collections of files. They are not files, but they can hold related program and data files in order to separate them from the larger group of all files.

To create a folder, open a directory window, then point at the File heading on the menu bar and select the New Folder option. The following dialog box appears:



Type in a name for the folder, then select OK (or press the **[Return]** key). The new folder will appear in the directory window. If you decide not to create a folder, select Cancel.

Once you create a folder, you can create other folders within it. Folders can be nested within folders down to eight levels. (For more information, see **Folders** in **Chapter 3**.)

Close and Close Window

The Close and Close Window options let you close a window on the desktop. Make sure the window is active, then select either option from the File menu. (You can also close a window by selecting the close box in the window's upper left corner.)

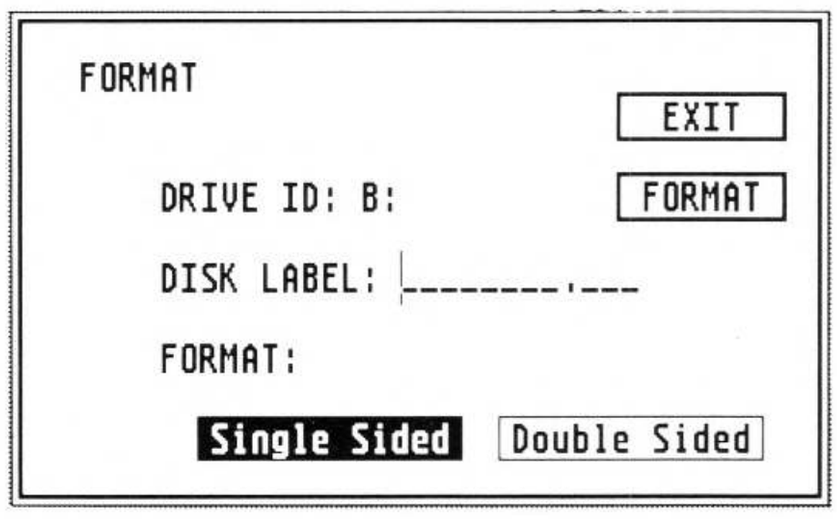
The Close option and the close box work the same way: they both close the current directory window. When you are displaying a folder directory, that directory closes and the directory the folder is in is displayed in the window. When you are displaying a disk directory, that directory closes and the window disappears.

The Close Window option closes a window completely and takes it off the screen in one step, even if you are displaying a folder directory.

Format

Formatting is the process of preparing a microfloppy disk to accept data. Disks can be formatted as either single- or double-sided, and used disks can be reformatted. (For a complete explanation of formatting, see **Formatting a Disk** in **Chapter 2**.)

To format a disk, insert the disk into a drive, select the disk icon for that drive, then select the Format option from the File menu. A dialog box appears reminding you that formatting will erase all data on the disk. If you still want to format the disk, select OK. The following dialog box appears:



The Format dialog box gives you the option of labeling your disk. Labeling is a way to identify the disk; the label you give it will appear in the Show Info dialog box for that disk. Once labeled, a disk cannot be renamed until it is reformatted. To label a disk, type in the name from the keyboard, using the **[Backspace]** key to delete any errors.

Note: Labeling a disk is optional; it isn't a necessary step to formatting the disk.

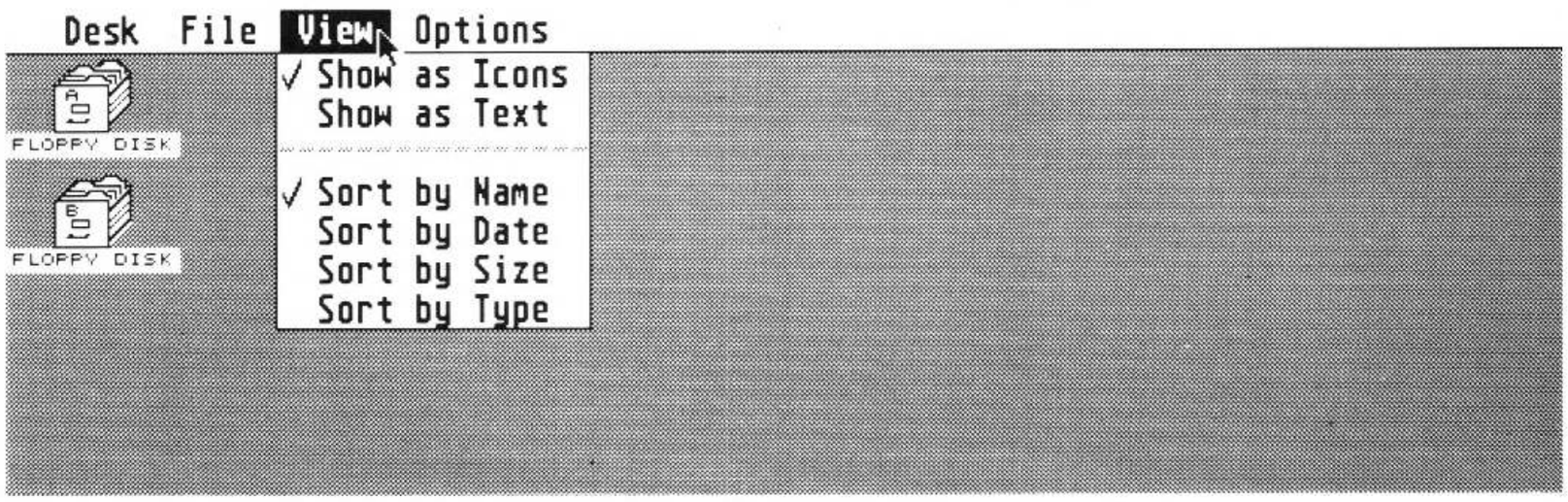
Select either the single- or the double-sided option, then select the Format button. A Format Working box lets you monitor the operation. When the process is complete, a dialog box displays the number of bytes available for storage on the disk. Select OK, then select Exit from the Format dialog box that again appears.

If your disk doesn't show 357,376 (single-sided) or 726,016 (double-sided) bytes available, the disk may be defective. Try formatting again. If the problem persists, discard the disk.

Warning: When you reformat a used disk, any data on the disk is lost—forever. Be sure to copy the items you want to save before reformatting the disk.

View

The View menu lets you choose whether to display your files as icons or text, as well as whether to sort them by name, date, size, or file type. To modify how files are displayed, select the menu option you want. A check next to an option indicates that option is selected.



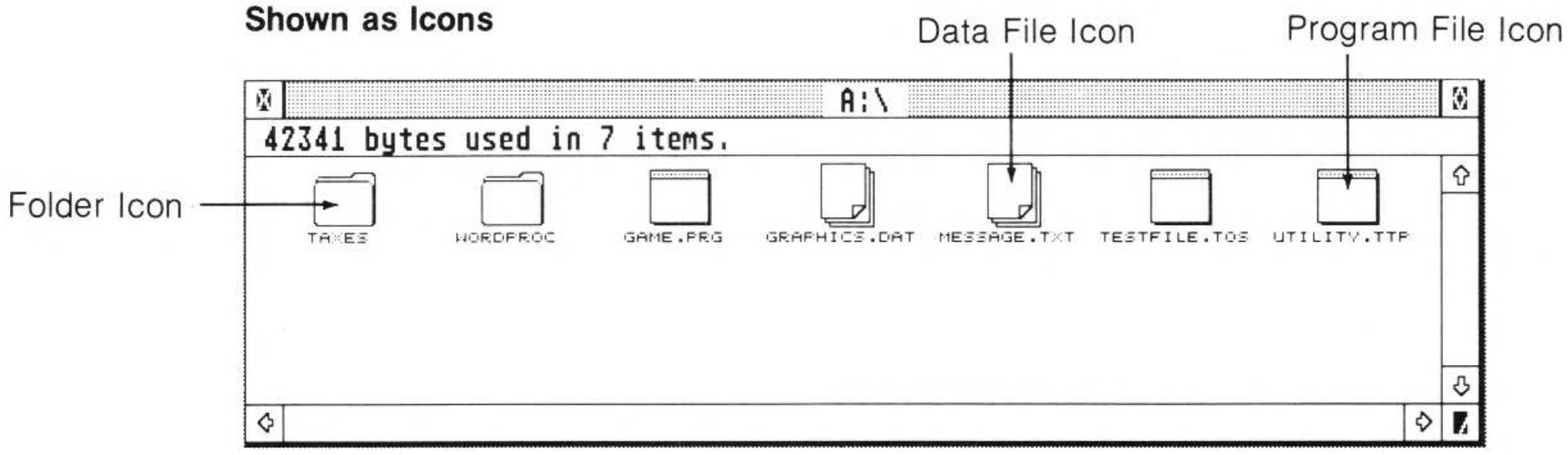
Options selected from the View menu affect all directory windows. You cannot select certain options for one window and alternate options for another window.

Note: Choices made using the View menu can be saved, so that when you switch on your computer, those choices are selected. See **Save Desktop** later in this chapter for instructions. Also see **Customizing Your Desktop** in **Chapter 6**.

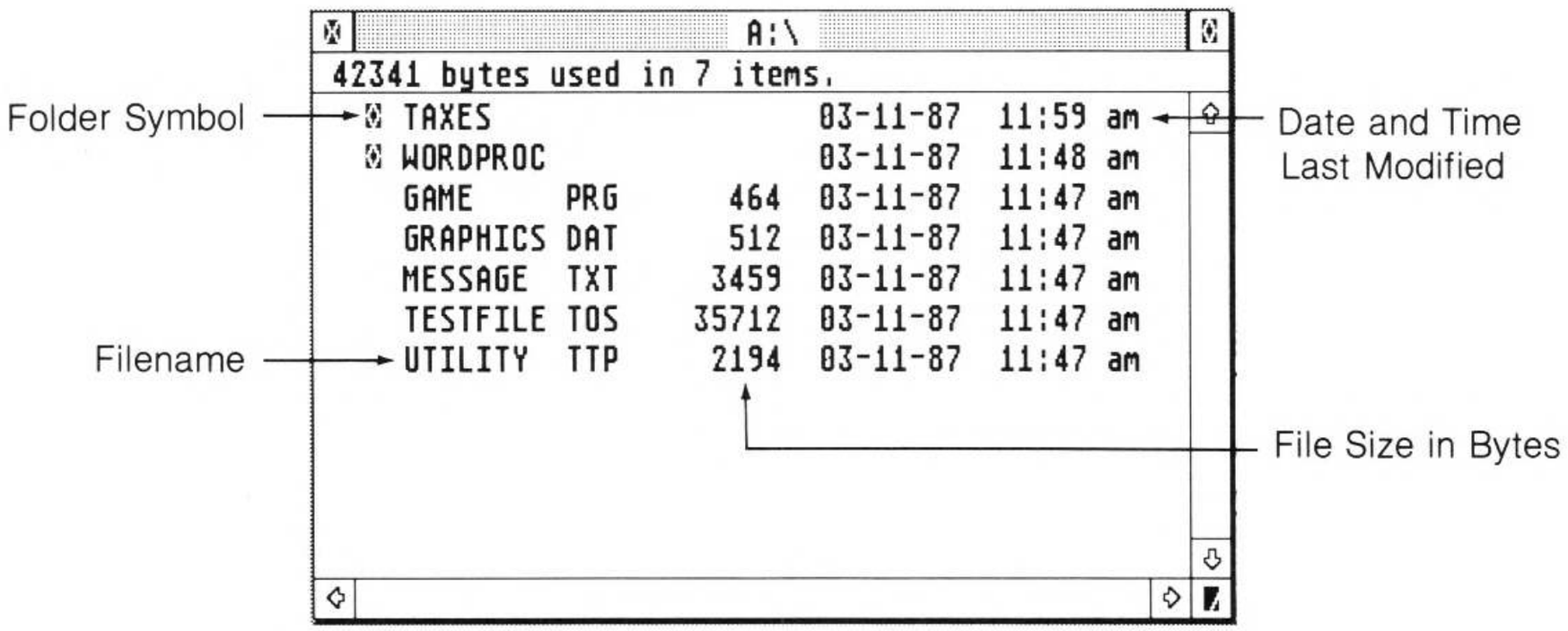
Show as Icons and Show as Text

The same directory displayed both as icons and as text is shown below:

Shown as Icons



Shown as Text



When a directory is shown as icons, different pictures (icons) in the window indicate different types of items. Items shown as icons are listed horizontally, left to right across the window. (See **Chapter 3** for a complete explanation of icons.)

When a directory is displayed as text, the window shows the filename, file size, and the date and time the file was last modified. A small box next to a filename is the folder symbol, and indicates that item is a folder. Items shown as text are listed vertically from top to bottom.

Files and folders displayed as text may be opened, copied, and deleted using the same techniques as for icons.

Sort by Name, Date, Size, and Type

These options determine how items in a directory window are sorted. Only one option at a time can be selected.

When Sort by Name is selected, items are listed in alphabetical order, folders before files.

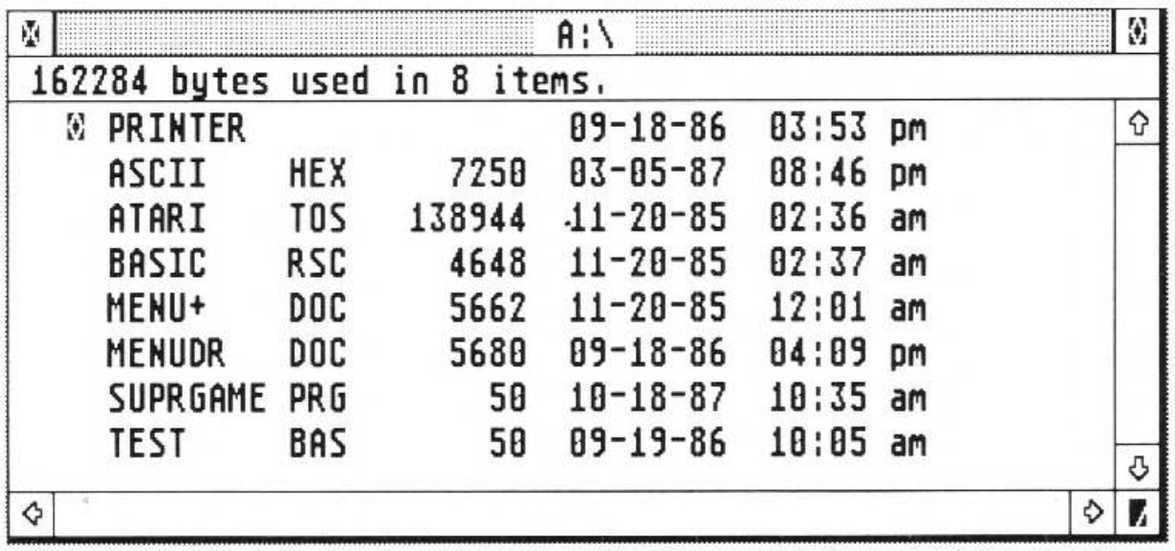
Sort by Date lists items chronologically, with the most recently created or revised item appearing first. (Items are dated according to the clock/calendar in the Control Panel. See **Clock/Calendar** in **Chapter 5**.)

When Sort by Size is selected, items are listed according to their size in bytes, with the largest item appearing first.

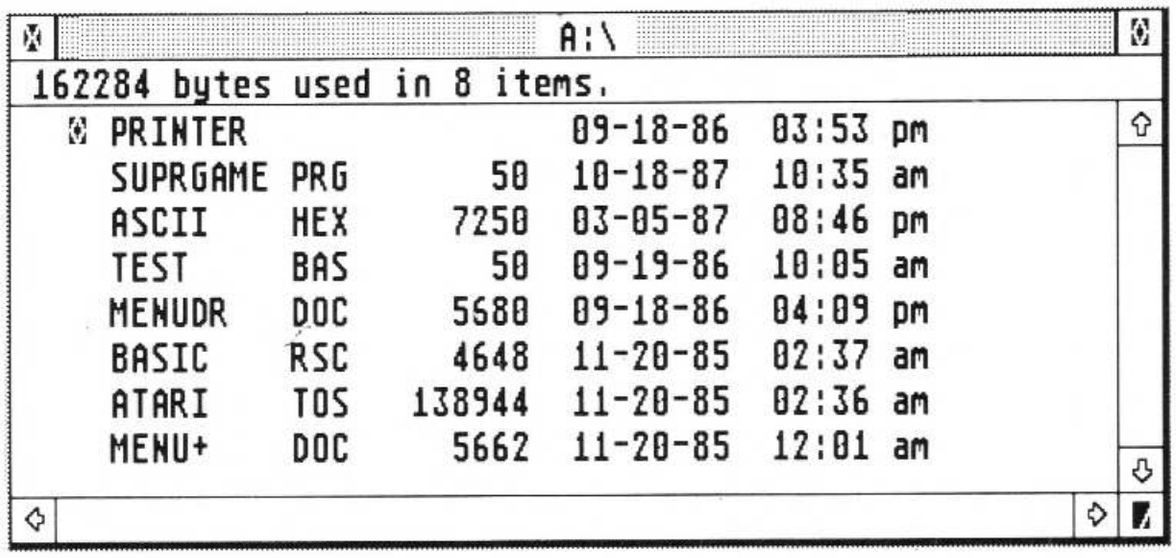
Sort by Type sorts items alphabetically by their extenders. Items with common extenders are grouped together in alphabetical order by name.

The two directories that follow are for the same disk. One directory sorts items by name; the other directory sorts by date.

Sorted by Name

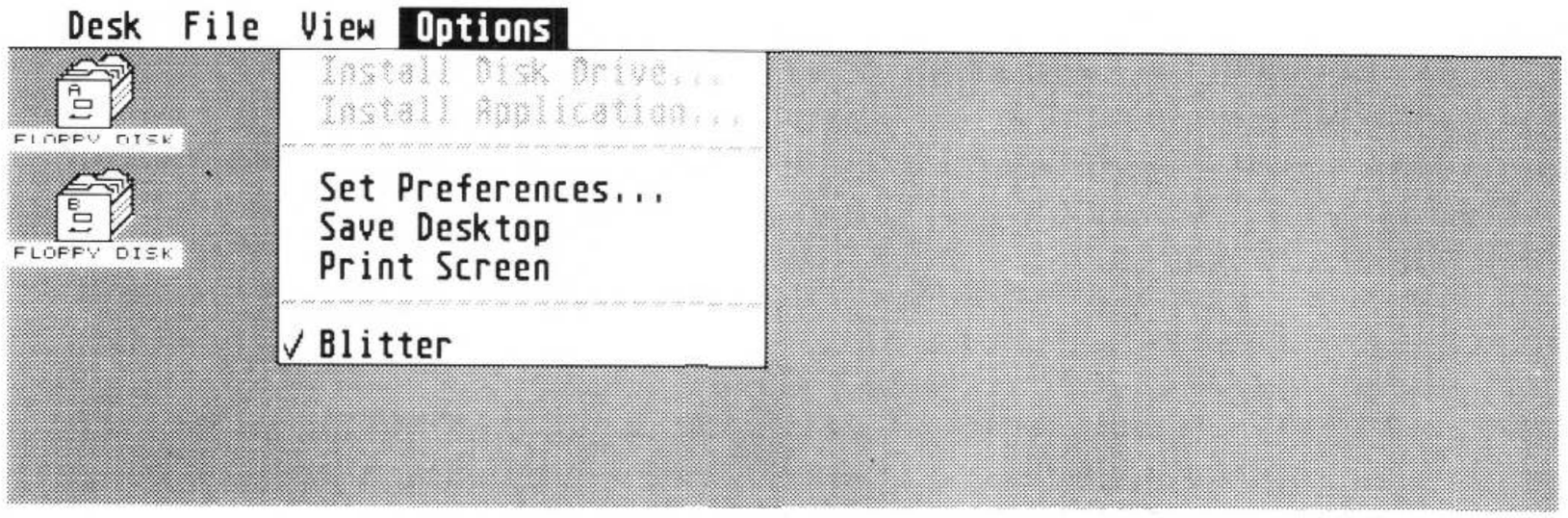


Sorted by Date



Options

The Options menu includes a variety of useful desktop features.

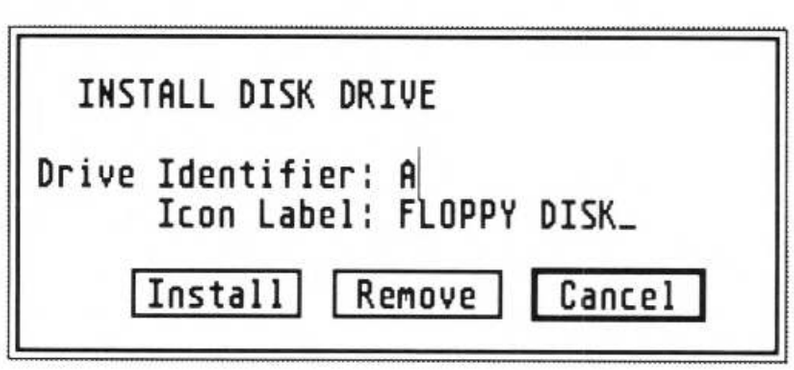


Note: Any choices you make with the Options menu can be saved to disk. See **Save Desktop** later in this chapter and **Customizing Your Desktop** in **Chapter 6**.

Install Disk Drive

When you switch on your ST Computer, the GEM desktop displays two disk icons. Each icon has a disk identifier (A or B) and the icon label "FLOPPY DISK." You can change the icon label, remove a disk icon from the desktop, or re-install it with the Install Disk Drive option.

Select a disk icon, then select the Install Disk Drive option. The following dialog box appears:



To install a new disk icon, use **[Backspace]** or **[Esc]** to erase the current disk identifier, then type in the disk identifier of the icon you want to install. The two identifiers "A" and "B" represent your floppy disk drives. The uppercase letter "C" represents a hard disk; lowercase "c" represents a cartridge.

Note: The disk identifier is the same as the drive identifier.

To change a disk icon's label, select the Icon Label line; the vertical cursor jumps to that line. Press the **[Left Arrow]** key to move the vertical cursor, or press **[Backspace]** or **[Esc]** to erase the label. Type in a new name, using up to 12 characters. Finally, select the Install button. The new disk drive or label change will appear on the desktop.

To remove a disk icon, select the Remove button from the Install Disk Drive dialog box.

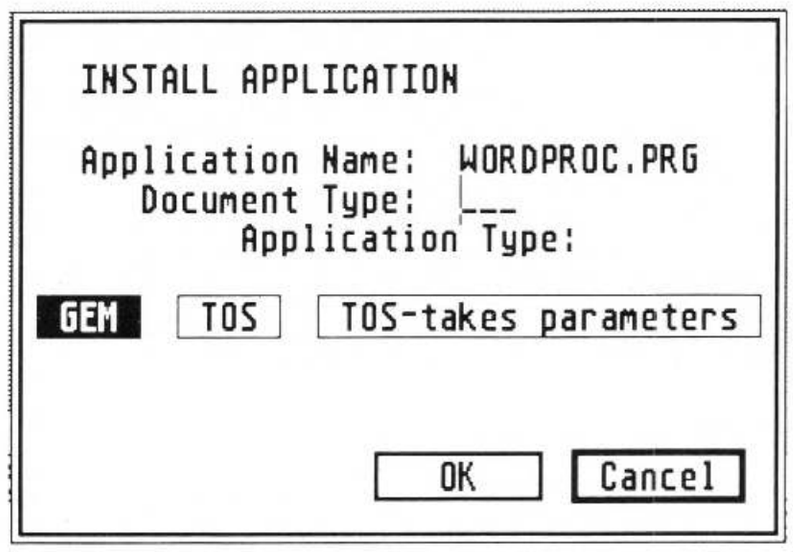
Warning: Never remove all disk icons from your desktop.

To re-install a disk icon you've removed, select a remaining disk icon on the desktop, choose Install Disk Drive, then type in the disk identifier of the missing icon. Select the Install button.

Install Application

Install Application lets you open a data file directly from the desktop into an application without having to open the application first. For instance, if you install a word processor with this option, you can then double-click the left mouse button on a text file listed on the desktop. The computer will load the word processor first and then load the text file, ready for you to work on.

To use the Install Application option, first select an applications program from a directory on the desktop. Then select Install Application from the Options menu. The following dialog box appears:



The name of the application you selected appears on the Application Name line. On the Document Type line, type the common extender of the files that use that application.

Select GEM if the application you are installing has a .PRG or .APP extender; select TOS if the application has a .TOS extender; select TOS-takes parameters if the application has a .TTP extender.

Finally, select the OK button to install the application.

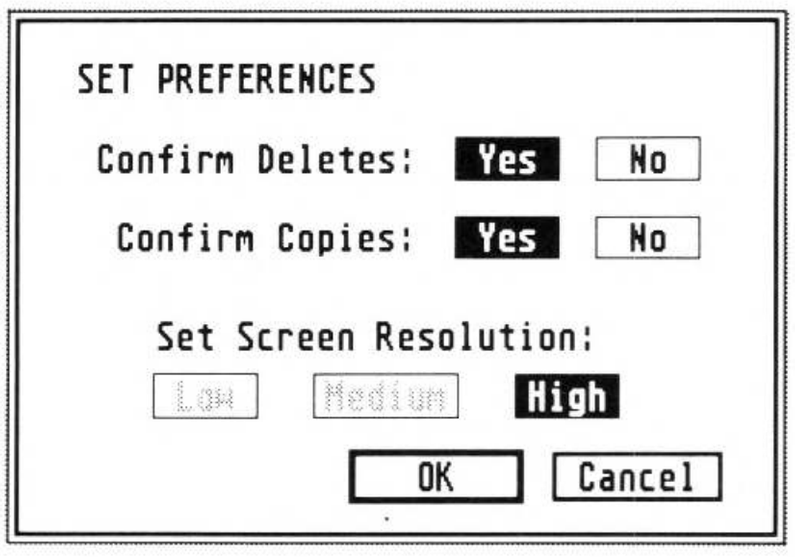
In order to use the installed application, a data file must have the same extender as you indicated on the Document Type line. (If the data file's extender is different, select the file and use Show Info in the File menu to change the extender.) Also, the application file must be present, either on the same disk as the data files (preferably in the same folder but never in a different folder), or on the disk in drive A.

Note: For a detailed explanation of installing an application, see **Installing an Application** in **Chapter 6**.

Set Preferences

The Set Preferences option lets you choose whether or not to display certain dialog boxes, and what resolution your monitor display will be in.

When you select the Set Preferences option, the following dialog box appears:



The Confirm Deletes and Confirm Copies options determine whether or not the computer displays a confirming dialog box before deleting an item or copying it. It's a good idea to retain the Yes choice with these options. If you don't want to confirm your copy or delete requests, select No in one or both of these lines. (To review how the confirming dialog boxes work, see **Copying Files and Folders** and **Deleting Files and Folders** in **Chapter 3**.)

The Set Screen Resolution option lets you select the resolution of your monitor screen display. If you're using an ATARI Monochrome Monitor, you can select only High. If you're using an ATARI RGB Color Monitor, you can select either Medium or Low. (Some color applications will require a specific resolution; refer to the application's manual for information.)

Select the OK button (or press **[Return]**) to set your preferences. Select Cancel to exit the dialog box without changing your preferences.

Changing screen resolution has the same effect as pressing the reset button: it causes the computer to do a warmstart. Because of this, changing confirmation preferences and changing resolutions cannot be done at the same time. First change the resolution. Then reselect the Set Preferences option and change the confirmation preference.

Also because of the warmstart effect, you must have your desk accessories on a disk in drive A in order to retain them when you change resolution.

Save Desktop

The Save Desktop option lets you save any modification you make to the GEM desktop, such as the size and location of windows, the placement of icons, the way your files are displayed and sorted, and whether you've installed any applications. Once a modified desktop is saved, it will appear on screen every time you switch on your computer, as long as the disk you saved the desktop to is in drive A.

To use the option, first set up your desktop the way you want it. (For more information, see **Customizing Your Desktop** in **Chapter 6**.) Make sure you have a disk in drive A, then select the Save Desktop option. A dialog box appears:



Select OK to save your desktop. The ST Computer creates a file called DESKTOP.INF with your desktop information in it, and writes it to the disk in drive A.

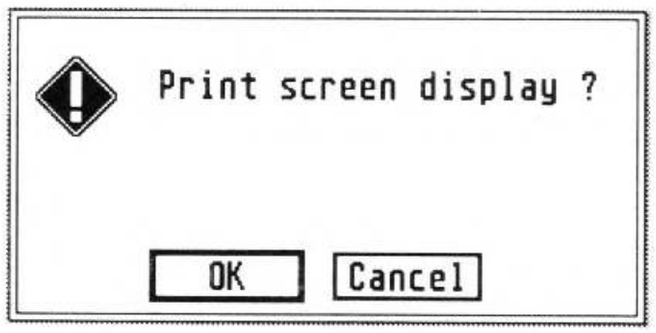
From now on, whenever you switch on your computer with the DESKTOP.INF file on the disk in drive A, the system reads the file and sets up the desktop as you have modified it.

Note: If you are using a hard disk, the computer writes the DESKTOP.INF file to the main directory of that disk. When you switch on the computer, it checks the disk in drive A first for a DESKTOP.INF file. If it doesn't find one there, it reads the DESKTOP.INF file on your hard disk.

Print Screen

The Print Screen option prints the current screen display on a printer. Everything on screen is printed (except the dropped-down Options menu).

To use the option, you must have a graphics printer connected to your computer, installed from the Control Panel, and switched on. Set up the screen you want to print, then select the Print Screen option. A dialog box appears:



Selecting OK prints the screen; selecting Cancel stops the process.

Once printing is underway, you can stop it at any time by pressing **[Alternate] [Help]**.

You can also print a screen by setting up your screen (moving the mouse pointer out of the way, if you want) and then pressing **[Alternate] [Help]**. Press **[Alternate] [Help]** again to stop printing at any time.

Note: If you try to print a screen without first turning on your printer, the system will try to access the printer for approximately 30 seconds before giving up. This is known as timing-out.

Blitter

The Blitter chip is a special processing circuit inside your ST Computer that can greatly improve the speed of text and graphics. This chip can be turned on or off by selecting the Blitter option from the Options menu. When there is a check next to this option, the Blitter is enabled; when there is no check, the Blitter is disabled.

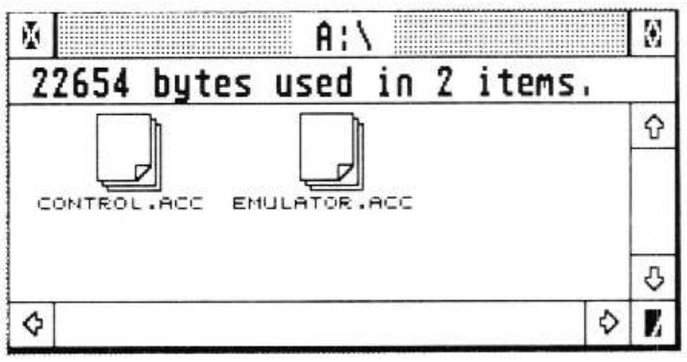
In most cases, you will want to have the Blitter on because faster graphics and text are desirable. However, some applications may run too fast (or not at all) with the Blitter enabled. In these cases, turn off the Blitter before executing the program.

Note: If your Options menu does not list the Blitter option, your ST Computer does not contain a Blitter chip.

CHAPTER 5
DESK ACCESSORIES

Desk accessories are special applications which are loaded into memory when you switch on your computer. A desk accessory can be anything from a clock to a calculator to the Control Panel and VT52 Terminal Emulator.

The disk supplied with your ST Computer has two desk accessory files on it: CONTROL.ACC and EMULATOR.ACC.



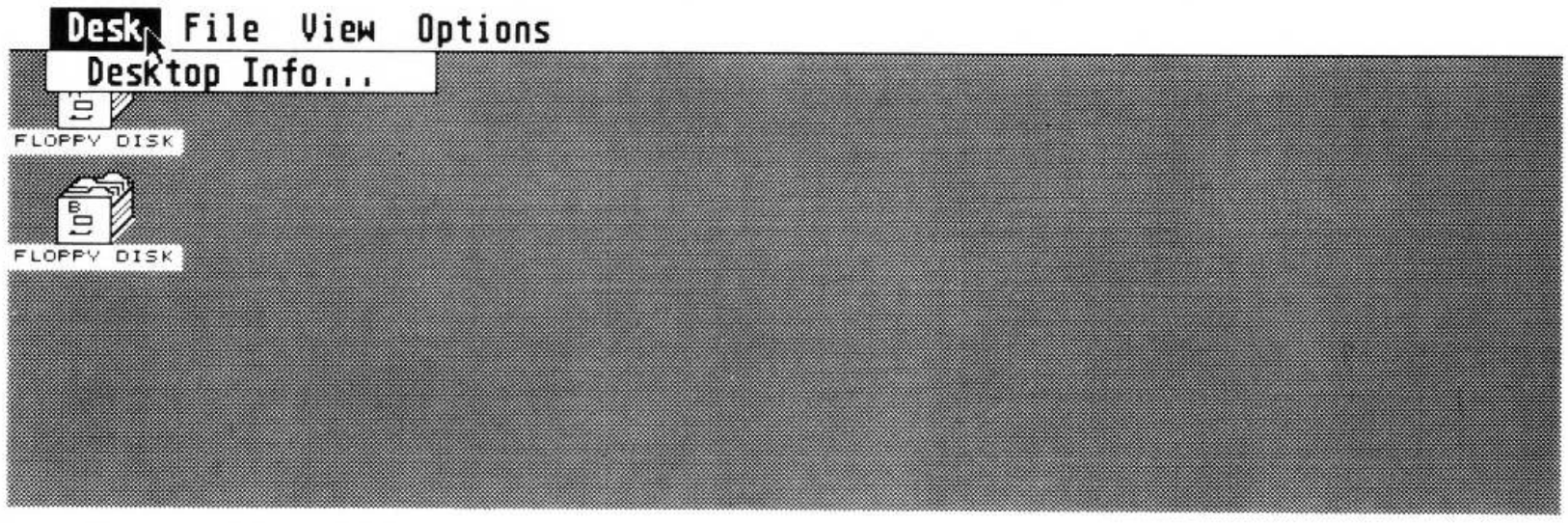
CONTROL.ACC is the Control Panel from which you can do things such as set your internal clock and modify the colors of your desktop. EMULATOR.ACC is the VT52 Emulator, a telecommunications terminal program. When a modem is connected to your ST Computer, this program lets your computer communicate with other computers.

Desk accessories are unique because you can run them at the same time you're running another application (as long as the application uses the menu bar). For instance, if you're using a word processor and you want to change how fast the keyboard responds to your typing touch, you can use the Control Panel desk accessory without exiting the word processor.

When selected, desk accessories open into dialog boxes or into windows similar to directory windows. To use an accessory's dialog box, select a dialog button or press a key on the keyboard, depending on the accessory. Use accessory windows as you use directory windows. For instance, the Control Panel window is activated by clicking the left mouse button on it, and includes a move bar and close box. Sometimes a desk accessory window is entirely covered by a directory window. To see the desk accessory window, move or size the directory window, or select the accessory again from the Desk menu.

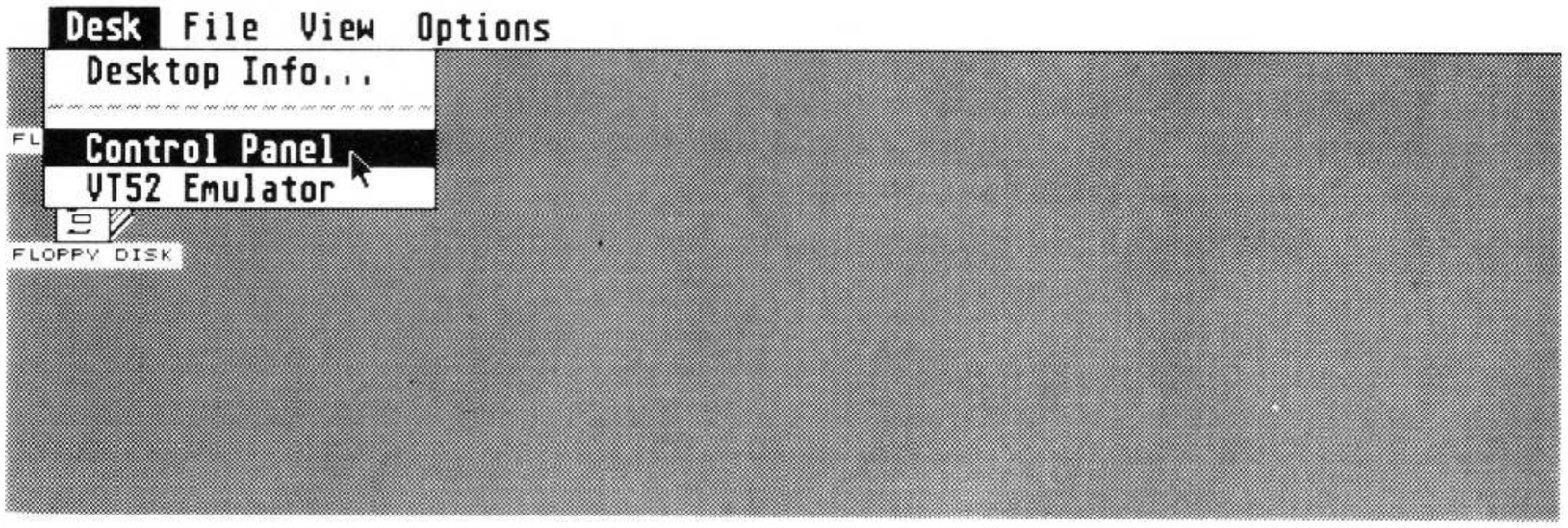
Desk accessories are designated by the .ACC file extender. You can disable a desk accessory by changing its extender to .ACX (or any other combination except .ACC), then restarting your computer. By doing this you can store many desk accessories on one disk, but load only those you want to use at a particular time. Before changing its extender, make sure the desk accessory file's attribute is set to Read/Write. (See **Show Info** in **Chapter 4** for more information.) To enable a desk accessory, change its extender back to .ACC.

Desk accessories can be accessed from the desktop or from any application using the menu bar, and are found under the leftmost menu heading (usually Desk). You can have up to six desk accessories loaded at once. However, if you switch on your computer without first inserting a disk containing desk accessory files into drive A, the Desk menu will contain only one item, Desktop Info.



Doing without the desk accessories does free some of the computer's memory, but usually you'll want them present. (For more information, see **Slow Boot/Fast Boot** in **Appendix B**.)

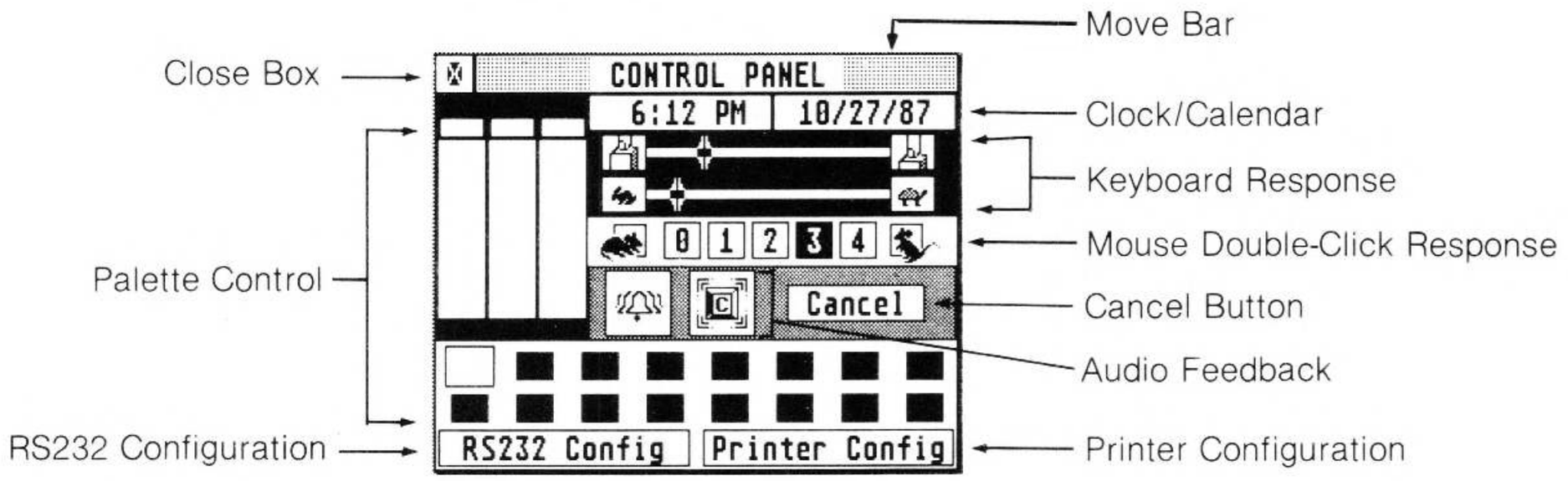
To open a desk accessory, display the Desk menu and select the accessory.



Control Panel

The Control Panel lets you set a variety of features which affect the system as a whole. The Control Panel has seven sections: clock/calendar, keyboard response, mouse double-click response, audio feedback, palette control, RS232 configuration, and printer configuration.

Select Control Panel from the Desk menu. The Control Panel window appears:



Once you've set the Control Panel options, select the close box in the upper left corner. To cancel any setting changes you make, select the Cancel button.

Note: Any changes you make to the Control Panel can be saved to disk. See **Save Desktop** in **Chapter 4**.

Clock/Calendar

The ST Computer uses the clock/calendar to mark individual files with the date and time they were created or revised.

To set the clock or calendar, select either the clock window (left window) or the calendar window (right window). The window highlights to mark your selection. Press **[Backspace]** or the **[Left Arrow]** key to position the cursor in the block, or press **[Esc]** to erase the block. Then enter the correct time or date from the keyboard. When you finish, select the window again (or press **[Return]**).

Note: If you move the cursor into the block but do not enter a new time or date, the original reading will reappear when you select the window.

Once you set the time and date, the computer tracks the passage of time. If you have installed the clock batteries (see **Chapter 1**), the computer continues to track time even when your system is turned off. If you have not installed the batteries but still want an accurate dating of your files, you must reset the clock/calendar each time you switch on your computer.

Keyboard Response

Every key on the ST Computer keyboard responds when you press it, and every key (except **[Shift]**, **[Control]**, and **[Alternate]**) will repeat if you hold it down. The keyboard response controls how fast the keys respond and how quickly they repeat.

The upper slide (finger/key icons) controls how soon a key responds once it is pressed. Moving the slider to the left makes the keys respond sooner. Drag the slider to the desired position, then release the left mouse button.

Key Response

Respond Sooner → ← Respond Later

The lower slide (rabbit and turtle icons) controls the speed at which the keys repeat when they're held down. Moving the slider to the left makes the keys repeat faster. Drag the slider to the desired position, then release the left mouse button.

Key Repeat Rate

Repeat Faster → ← Repeat Slower

You can test your new settings by turning up the volume on your monitor and pressing **[Space Bar]**. Judge the responsiveness by listening to the clicks.

Mouse Double-Click Response

If you do not double-click quickly enough, your computer may interpret the double-click as two separate clicks. To slacken the computer's double-click response (so that you can double-click more slowly), select a numbered box nearer to the resting mouse icon.

For experienced users, a slower double-click response may be inconvenient. To quicken the computer's double-click response (to accommodate fast double-clicks), select a numbered box nearer to the running mouse icon.

Slower Double-Clicks → 0 1 2 **3** 4 ← Faster Double-Clicks

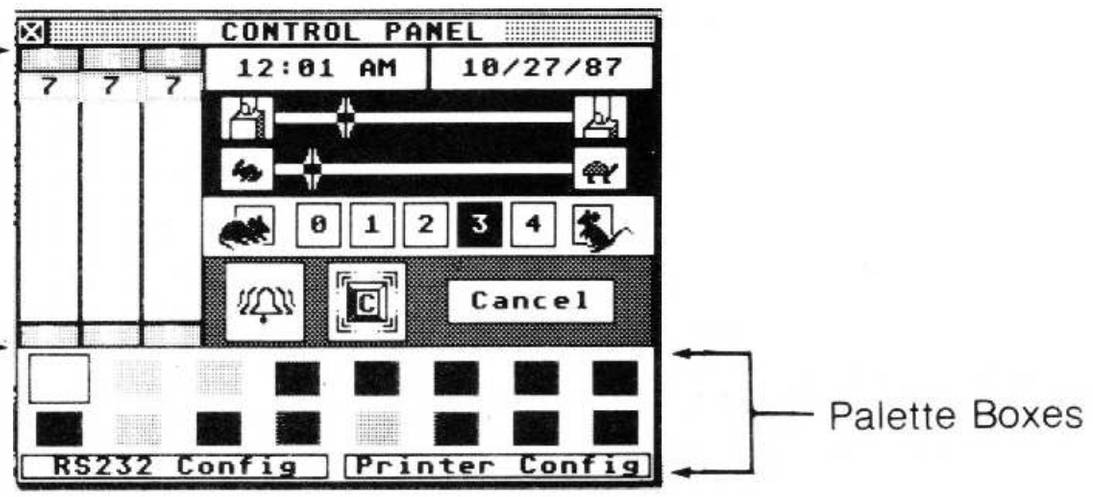
Audio Feedback

The ST Computer has two kinds of audio feedback: a click signaling each keystroke and a bell signaling keyboard or mouse errors. (An example of a mouse error is trying to select another function before exiting a dialog box.) These sounds are emitted from your monitor's speaker. To control audio feedback, select the keytop button or the bell button. An unshaded button means the function is enabled; a shaded button means it is disabled.

Shaded Bell Button → ← Unshaded Keytop Button

Palette Control

The palette control is fully functional only when you are using an ATARI RGB Color Monitor for your video display.



The palette boxes along the bottom of the Control Panel display swatches of color that you can modify. The primary-color slides allow you to mix the three primary video colors (red, green, and blue) to make a palette of the colors you want. The ST Computer offers a complete palette of 512 colors to choose from.

In low resolution, the ST Computer can display up to 16 of the 512 colors at one time (all 16 palette boxes are active). In medium resolution, the computer can display up to four colors at a time (the first two palette boxes in each row are active).

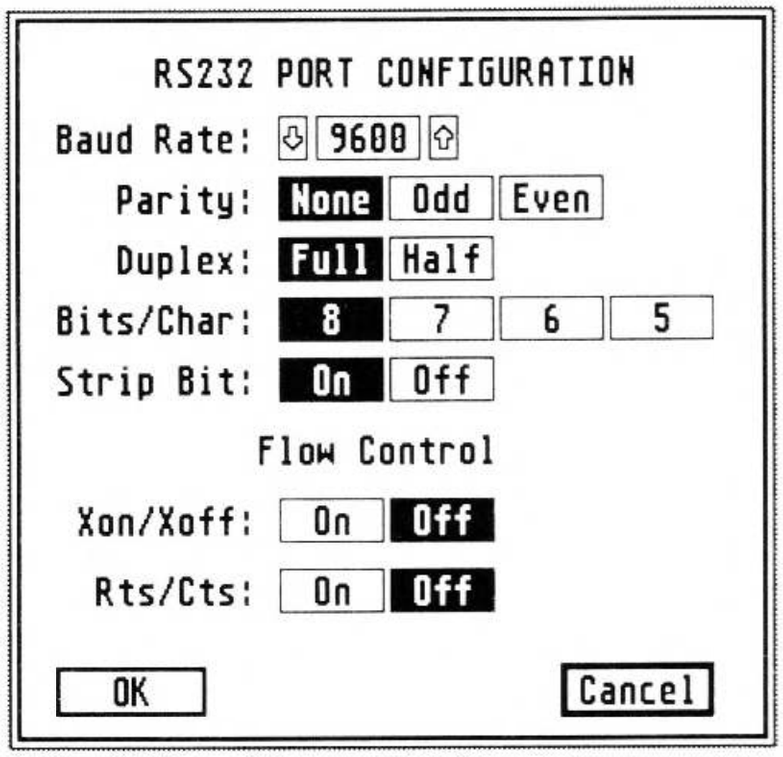
Select a palette color to modify by clicking the left mouse button on one of the active palette boxes. To modify the selected color, move any or all of the three primary-color sliders to the position you want. Move a slider by dragging it or by selecting the R (red), G (green), or B (blue) at the top or bottom of the slider. Each slider has eight positions (0 through 7). Selecting a higher-numbered position increases the primary color's brightness in the selected palette color.

When you are using an ATARI Monochrome Monitor, the palette control lets you select either black text and graphics on a white background (default) or white text and graphics on a black background. To reverse the current monochrome display, set all the sliders for the upper-left palette box to the 0 or 7 position.

RS232 Config

The port labeled "Modem" on the back of the ST Computer is an RS232 serial port. By connecting a modem to your computer, you can communicate with other computers. You can also connect a serial printer or any other RS232 device to the modem port.

To configure your RS232 port, select the RS232 Config button from the Control Panel. The RS232 Port Configuration box appears:



The RS232 Port Configuration box lets you match the computer's RS232 port with the configuration of the modem (or serial printer) you are using. Refer to the manual supplied with your peripheral for specific information on which parameters to choose.

Once you've configured the RS232 port, select OK. Select Cancel (or press **[Return]**) if you do not want to change the parameters.

Baud Rate

Baud rate is the speed at which data is transmitted. (Baud, the standard unit measure of transmission speed, is the number of signalizing elements per second.) The fastest rate available to you is 19,200 baud; the slowest is 50 baud. You must set baud rate to accommodate both your modem and the remote computer's modem.

To set baud rate, use the two arrowed buttons on the left and right of the baud rate number. Selecting the right (up arrow) button increases the number; selecting the left (down arrow) button decreases the number. Pressing and holding down the left mouse button on either button will cycle the number rapidly.

Parity

Whenever computers transmit data through telephone lines, there is a chance that some of the information can become garbled, often due to imperfections and noise within the lines. Parity is a method that computers use to examine information and determine whether it has been cleanly transmitted. The parity bit is a binary digit added to a group of bits to make the total of all bits odd or even. Depending on your modem and the remote device, you will choose either None, Odd, or Even. (Refer to the manual supplied with your modem for specific information.)

Duplex

Half Duplex configures the port for local echo: the characters you type are displayed on screen, then sent through the serial port. Full Duplex configures the port for host echo: the characters you type are sent directly out the serial port, then the host computer echoes them back to your computer. Most host computers allow Full Duplex transmission.

Bits/Char

Each character is stored in memory as one byte. A byte is made up of eight bits. Depending on the remote device, you may need to change the number of bits per character when transmitting through the RS232 port.

Strip Bit

The Strip Bit selector determines whether the transmitted characters' eighth bits are "stripped" (set to zero). If your system works correctly with eight-bit characters, you'll usually select Off; that is, the eighth bit will not be stripped.

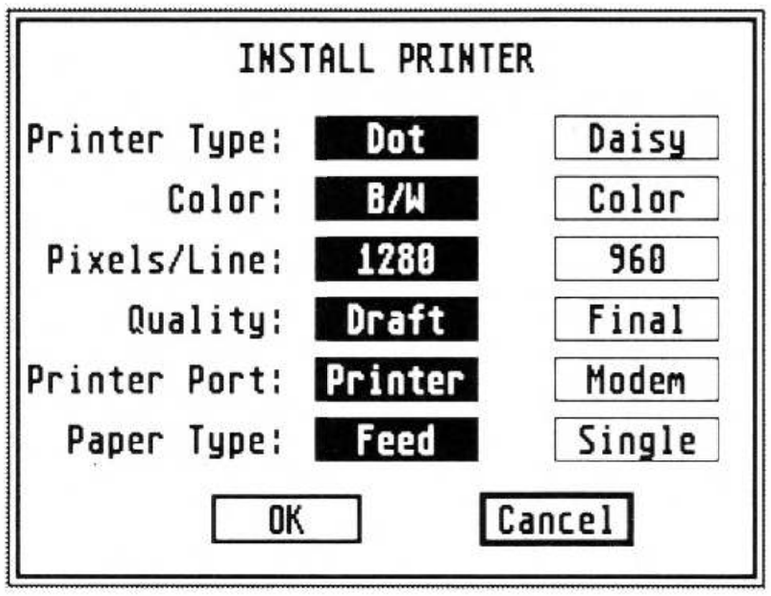
Xon/Xoff and Rts/Cts

These two choices represent flow-control protocols. When transmitting through the RS232 port, your computer and the remote device must be able to signal one another when to start or stop sending information. Choose the flow control that the remote device supports.

Printer Config

The printer configuration option is a system-wide installation which provides information to any utility or application. Whether or not a given program checks the printer configuration information before printing depends on the particular program. For example, the Print Screen option under the Options menu on the GEM desktop uses the printer configuration information, but other utilities or applications may not. Check the manuals supplied with your programs to see if they make use of the printer configuration information.

To configure your printer, select the Printer Config button from the Control Panel. The Install Printer box appears:



The Install Printer box lets you tell the computer which type of printer you have connected to the system, as well as which features of the printer you want the computer to activate when printing. Once you've set the parameters, select the OK button. Select Cancel (or press **[Return]**) if you do not want to change parameters.

Printer Type

Your choices are Dot (dot matrix printers) and Daisy (daisywheel printers). Select the appropriate box for your printer.

Color

Your choices are B/W (black and white, or monochrome, printers) and Color (color printers). Select the appropriate box for your printer.

Pixels/Line

The Pixels/Line option is used by dot matrix graphics printers only. Pixel means picture element. On dot matrix printers, a pixel is a dot. Dot matrix printers print a certain number of pixels per line when printing in graphics mode. If you have an ATARI Dot Matrix Graphics Printer, select 1280. If you have an Epson™, or Epson-compatible dot matrix graphics printer, select 960. Both values assume an eight-inch printed line.

Quality

The Quality option is used by dot matrix printers only. Select Draft for draft-quality printing; select Final for printing that is letter or near-letter quality (your printer must be able to support near-letter-quality printing).

When printing graphics, your printer will often make only one pass of the print head if set to Draft. For darker graphics, select Final, but keep in mind that the printer will generally make two passes of the print head, and so take twice as long to produce the graphic.

Printer Port

If you have a parallel printer, select Printer. Parallel printers connect to the port marked "Printer" on the back of your computer. If you are using a serial printer, select Modem. Serial printers connect to the port marked "Modem" (the RS232 port) on the back of the computer.

Note: When using nearly all serial printers, be sure to configure the RS232 port for Xon/Xoff flow control (select On). Doing this enables the printer to signal the computer to temporarily stop sending it data so that it can print data it has already received. (See **RS232 Config** earlier in this chapter.)

Paper Type

If your printer feeds paper automatically by means of a tractor or single-sheet feeder, select Feed. If your printer accepts only a sheet at a time which you must insert manually, select Single. The Single option prevents the printer from printing beyond the end of a page, in case your document runs longer than a single sheet.

VT52 Emulator

The VT52 Emulator is an industry-standard telecommunications terminal program. When a modem is connected to your ST Computer, this program lets your computer communicate with other computers. Since the program is a bare terminal emulator only, it is most useful when used to hook into a large mainframe system.

Select VT52 Emulator from the Desk menu. The VT52 Emulator appears on screen:

```
**********************************
| Atari VT52 Terminal Emulator     |
| Copyright Atari Corporation 1987 |
**********************************
Press:
1) UNDO to return to desktop.
2) HELP to configure terminal.
```

To configure the Modem port, press **[Help]**, then refer to the instructions in **RS232 Config** earlier in this chapter. To return to the GEM desktop, press **[Undo]**.

CHAPTER 6
ADVANCED GEM FEATURES

The GEM desktop offers several advanced features for working with your ST Computer. Once you become comfortable operating your computer, you'll find that these features make your work even easier and more efficient.

Customizing Your Desktop

As you become more familiar with using your ST Computer, you may want to rearrange the GEM desktop. For instance, you might want to move the trash icon, line up the disk icons horizontally, or have your startup screen display several open directory windows. The GEM desktop lets you modify your work area to suit your personal preferences, then save the desktop in the new arrangement.

Arranging and Renaming the Desktop Icons

Arrange your disk and trash icons by dragging them to new positions on the desktop (you may want to close all windows first). Placing icons in a vertical line gives you room to open tall windows; placing them in a horizontal line gives room for wide windows. Placing the trash icon away from the disk icons protects you from accidentally dragging files to it instead of to a disk.

Rename a disk icon by selecting it, then selecting the Install Disk Drive option from the Options menu. When the Install Disk Drive dialog box appears, edit the current name to a new name. Do not change the letter in the Drive Identifier line. (For more information, see **Install Disk Drive** in **Chapter 4**.)



Note: You cannot rename the trash icon.

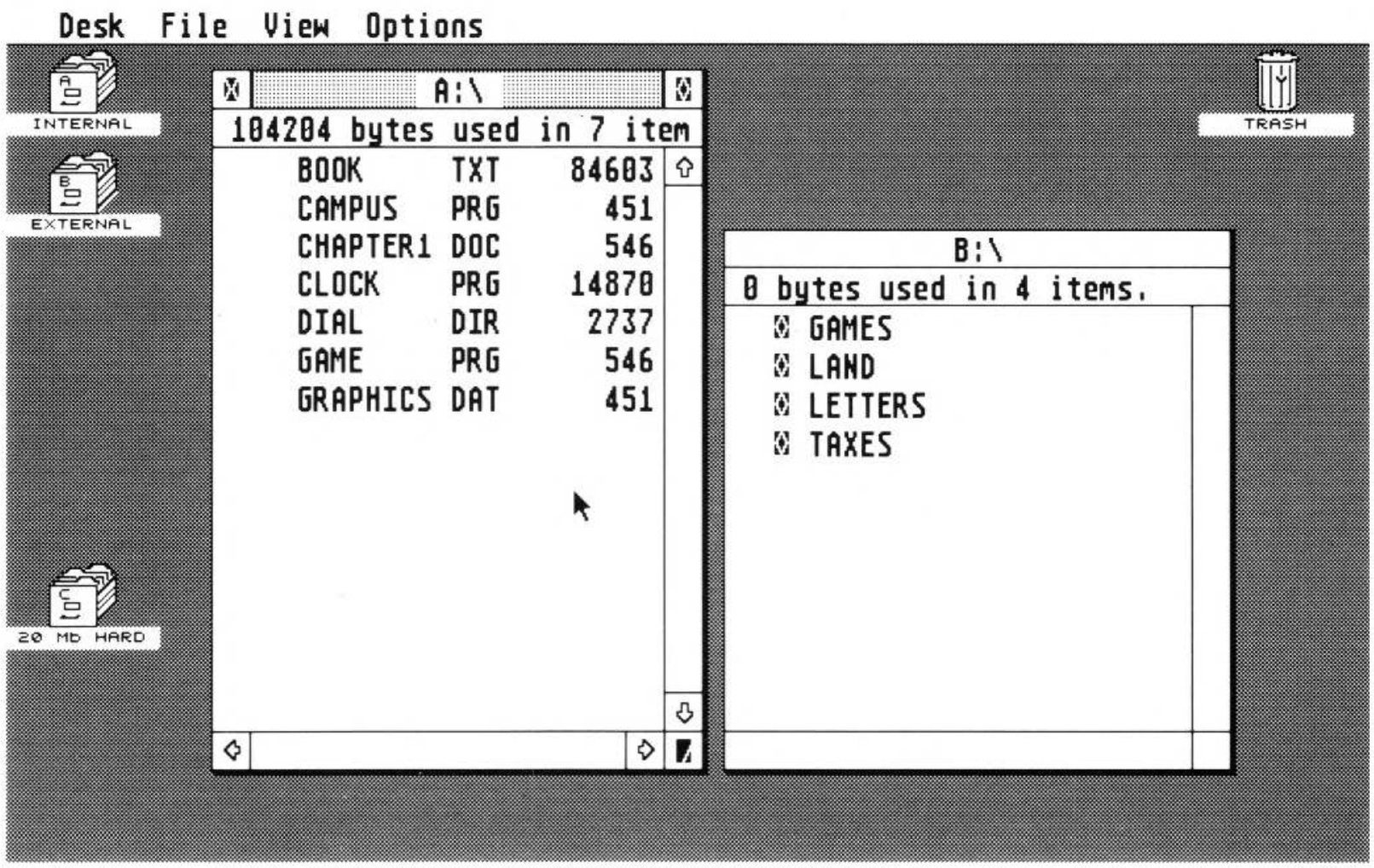
Arranging Directory Windows

Arrange directory windows on your desktop by opening the windows you want, then moving and sizing them to suit your needs. (You can have up to four directory windows at a time open on the desktop.) Select options from the View menu to determine how filenames will be shown (as text or as icons) and sorted (by name, date, size, or type). Tall windows work well for text; wide windows work well for icons. If you show filenames as text, you may want to narrow your windows to show the filename only.

Close the windows with the close box to preserve their positions and sizes when you save the desktop. The next time you open directory windows, they will appear in the established positions in the reverse order you closed them. For example, the last window you close will establish the position of the first window you open.

If you leave the windows open when you save the desktop, they will open to the same size and position the next time you switch on the computer. The window that is active when you save the desktop will be the active window the next time you switch on your computer.

Sample Customized Desktop



Saving the Desktop

To save your customized desktop, make sure there is a formatted disk in drive A and that it is not write-protected. Then select the Save Desktop option from the Options menu. Doing this creates a DESKTOP.INF file on the disk in drive A, preserving your custom settings. Whenever you switch on the ST Computer with DESKTOP.INF on the disk in drive A, the first screen displayed will be your customized desktop.

A good disk to use when saving your desktop is the working copy of the disk supplied with your ST Computer. This disk also contains the desk accessories. With this disk in drive A, you can install your desk accessories and display your customized desktop whenever you switch on your computer.

Note: If you are using a hard disk, the computer writes the DESKTOP.INF file to the main directory of that disk. When you switch on the computer, it checks the disk in drive A first for a DESKTOP.INF file. If it doesn't find one there, it reads the DESKTOP.INF file on your hard disk.

Making Your Own Boot Disks

The boot disk is the disk inserted in drive A when you switch on your computer. It usually contains desk accessories and the DESKTOP.INF file. You can make your own boot disk by saving your customized desktop to a blank disk, then copying the desk accessories to the same disk.

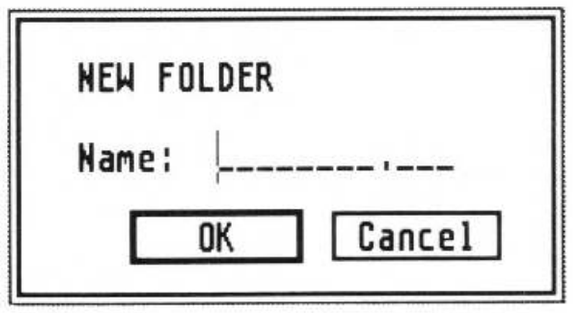
It's sometimes convenient to have more than one boot disk on hand. You can make several boot disks, each containing selected desk accessories and a different DESKTOP.INF file. This provides you with a number of GEM desktop variations to choose from when starting up your computer, depending on the work you're going to do.

Editable Dialog Boxes

The GEM desktop uses both simple and complex dialog boxes. Simple dialog boxes act as queries or reminders in the process of using the desktop. You answer these boxes by selecting a dialog button. Complex dialog boxes ask you to type or edit information in the dialog box, using the computer keyboard. These editable dialog boxes follow a series of standard rules.

Editable dialog boxes contain dashed lines, called editable text fields, on which you can type and edit text. In the text field, a vertical cursor (|) indicates where the next character you type will appear.

Editable Dialog Box



To move the cursor to an editable text field, select the text field. The cursor jumps to that line and you may begin typing text.

The following keys have a special effect in an editable dialog box:

[Left Arrow]	Moves the cursor one character to the left within the text field without erasing text.
[Right Arrow]	Moves the cursor one character to the right within the text field without erasing text.
[Down Arrow]	Moves the cursor to the next text field.
[Up Arrow]	Moves the cursor to the previous text field.
[Backspace]	Deletes the character and the character space to the left of the cursor.
[Delete]	Deletes the character and the character space to the right of the cursor.
[Esc]	Clears the current text field.
[Return]	Selects the dialog button with an enlarged border, if one is present.
[Tab]	Moves the cursor to the next text field (same as [Down Arrow]).

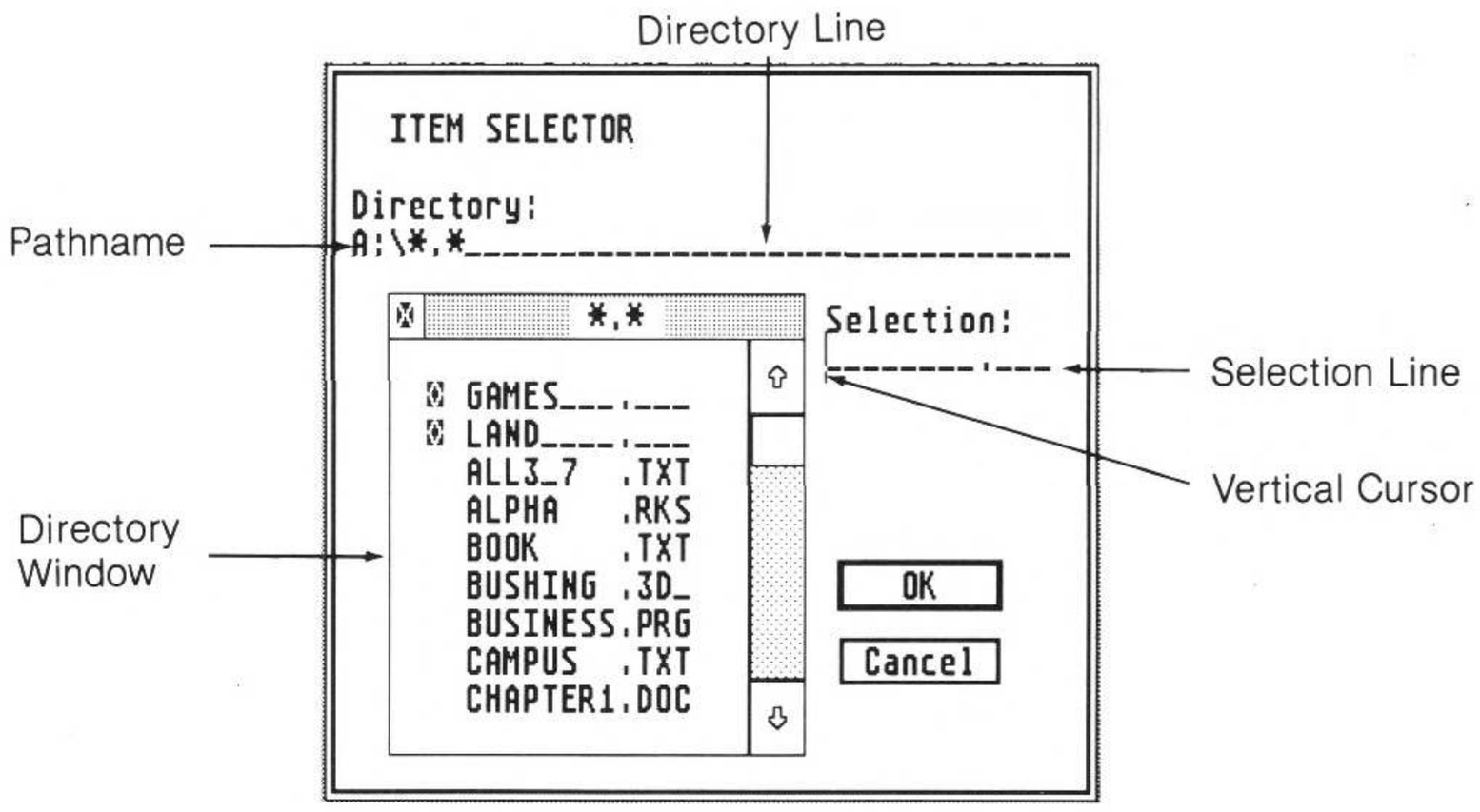
Some text fields contain punctuation marks such as periods (.) or slashes (\) to divide text on a line. To advance past a punctuation mark, type that mark. For example, you may see a text field with a period dividing the line, like this:

———————·———

Advance to the second part of the line by typing a period.

Using the Item Selector

The GEM item selector is an editable dialog box specialized for loading and saving files. The item selector is used by many applications programs and appears only when you are using one of those applications.



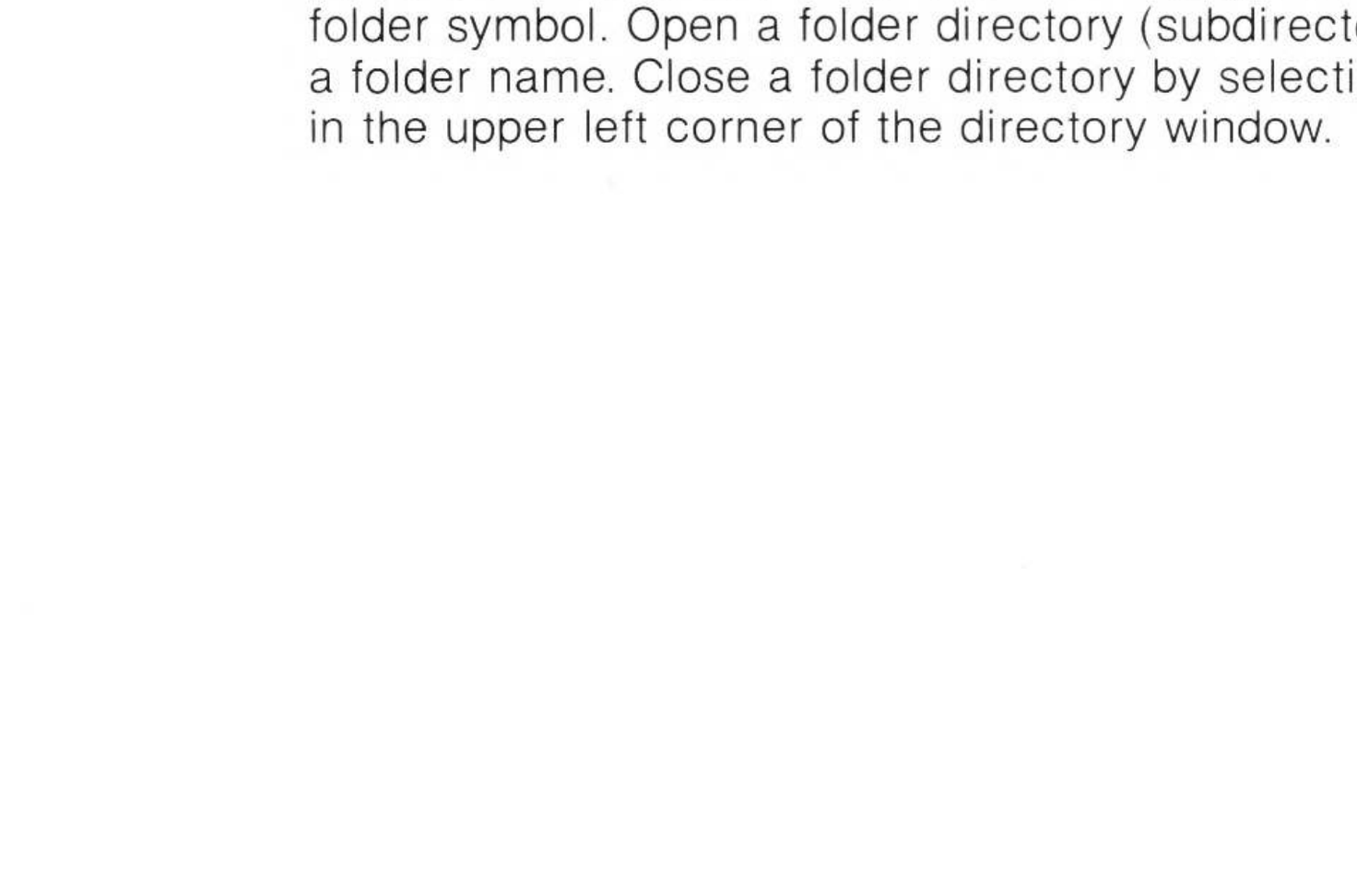
Selecting a File in the Item Selector

In an item selector, the pathname of the current directory appears on the directory line and the items to choose from are displayed in the directory window.

The items in the directory are sorted alphabetically, folders before files. If the directory holds more items than it can display at once, you can scroll it in the same way you scroll a disk directory (see **Scrolling a Window** in **Chapter 3**).

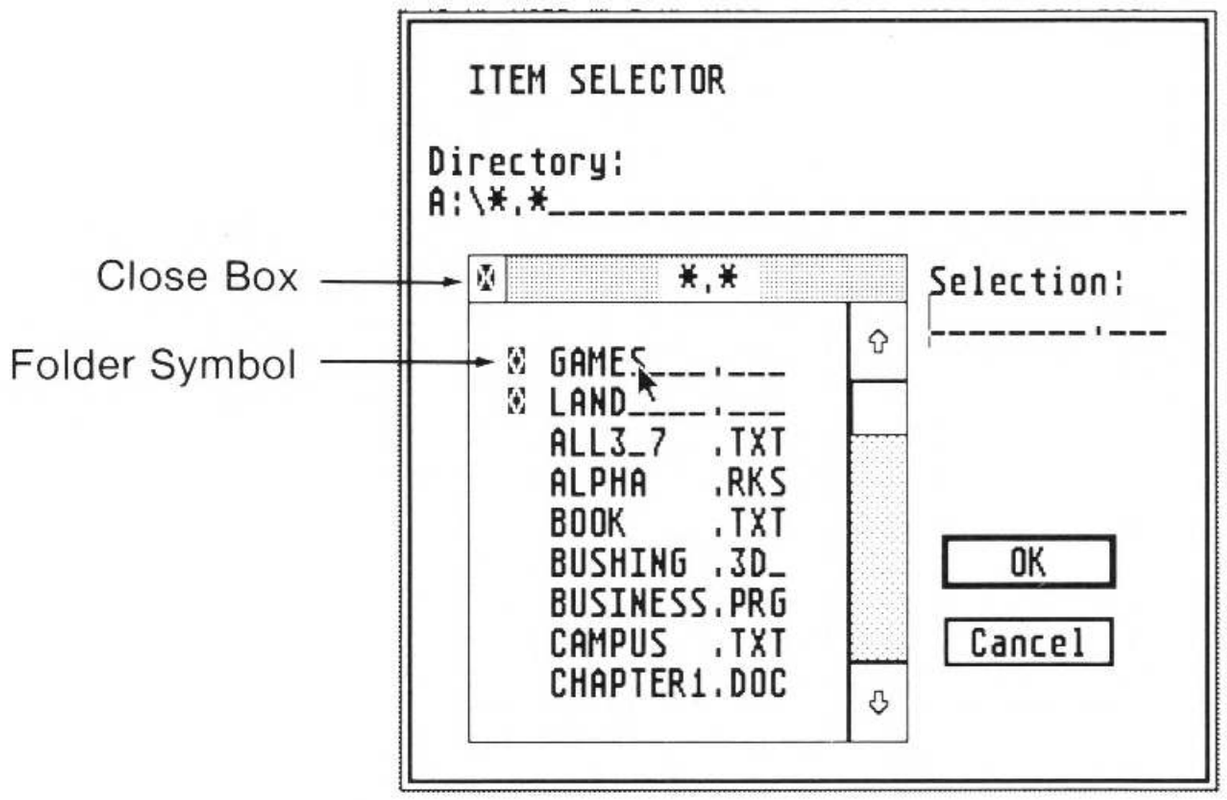
You can select an item from the directory in three ways. The first way is by clicking the left mouse button on the item. The item highlights and is copied to the selection line. Then select OK (or press **[Return]**). The second way is by double-clicking the left mouse button on the item. The third way is by typing the item's name on the selection line (or by typing a new name, if you want to create an item), then selecting the OK button. Make sure the vertical cursor is on the selection line before you begin typing.

Selecting a File



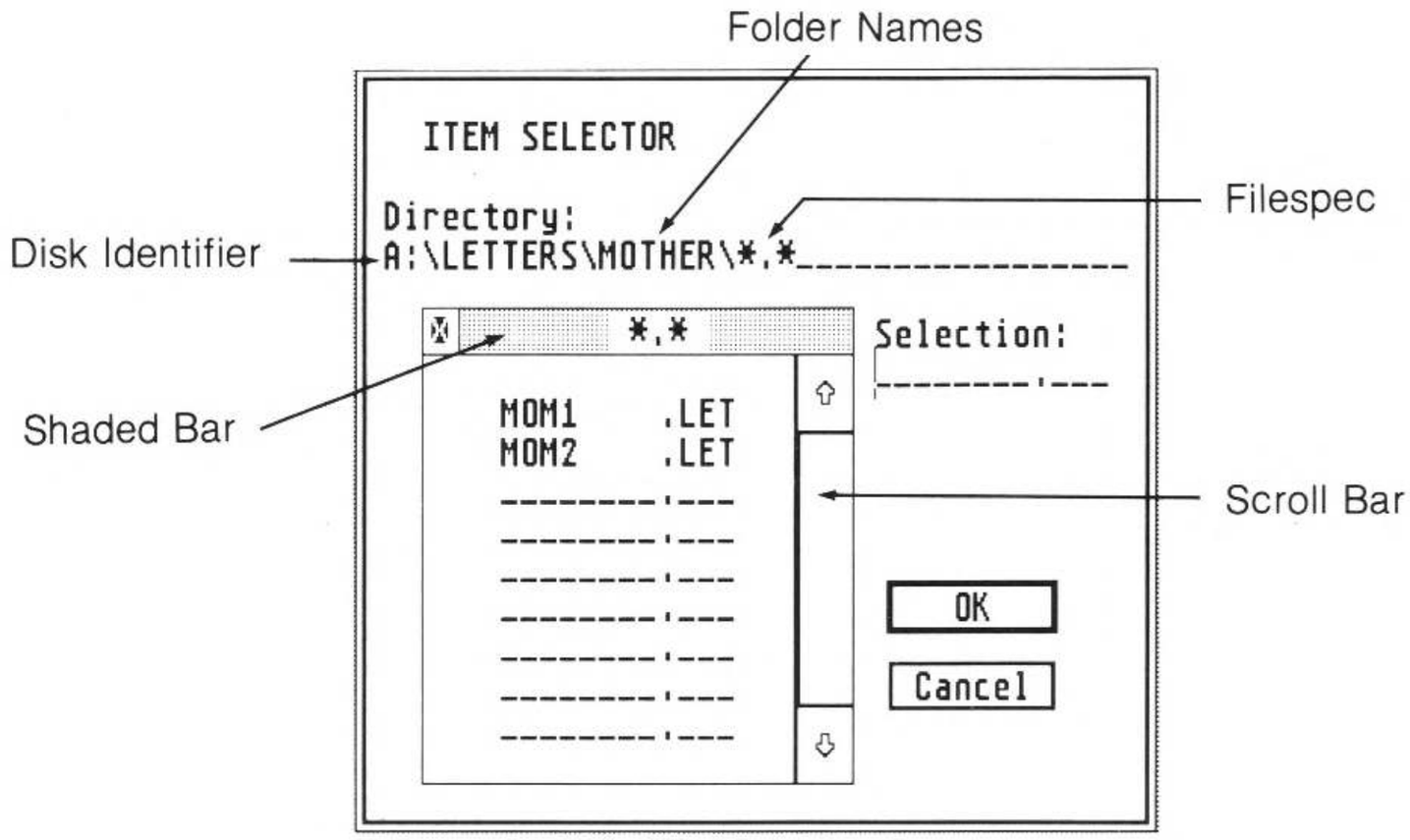
Folders are listed at the top of the directory and marked with a folder symbol. Open a folder directory (subdirectory) by selecting a folder name. Close a folder directory by selecting the close box in the upper left corner of the directory window.

Opening a Folder Directory



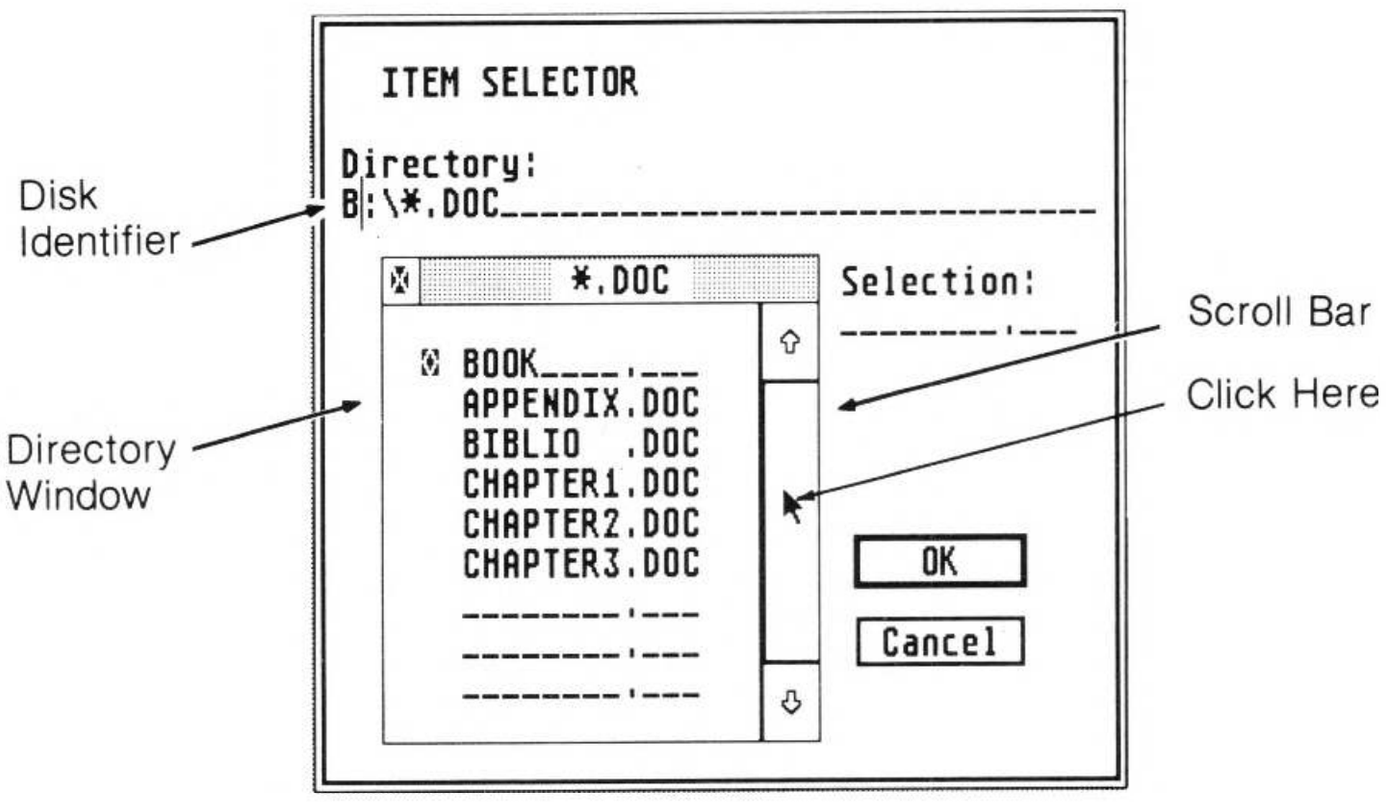
Using the Directory Line

In an item selector, the current directory's pathname appears on the directory line. The pathname contains a disk identifier, and may contain folder names and a filespec (short for file specifier). The directory line is an editable text field.



The disk identifier shows which disk is in use. It includes a letter specifying the disk, a colon (:), and a backslash (\ ). To change the disk identifier, move the vertical cursor onto the line. Delete the letter of the disk identifier and type in a new letter. (For example, type "B" to access drive B.) Delete the pathname, if one is showing. Finally, click the left mouse button on the scroll bar. The directory window is updated to list a directory for the new disk.

Changing the Disk Identifier



Folder names in the pathname list all folders that were opened to get to the current directory. Each folder name is followed by a backslash. The easiest way to change a folder name is to open or close folders from the directory window. You can also edit the folder names by typing on the directory line, making sure to follow each folder name with a backslash.

Note: The **[\ ]** key is located next to the **[Return]** key on the keyboard.

The filespec consists of a search criterion which may include letters, numbers, and wildcard characters (* and ?). The filespec specifies which files will appear in the directory window. By editing the filespec, you can choose which files or types of files to display.

The filespec is similar to a filename. It contains a mandatory name of up to eight characters and an optional extender of up to three characters. A filespec uses two special characters, called wildcards: the asterisk (*) and the question mark (?).

An asterisk in a filespec stands for all characters and combinations of characters, and can replace an entire name or extender. For example, the filespec

.

allows all filenames with all extenders to be displayed. A filespec will often have an asterisk as the name but specify the extender explicitly. For example, the filespec

*.DOC

allows all filenames with the .DOC extender to appear in the directory. This filespec would show the files

LETTER.DOC
ATARI.DOC
MOM.DOC

but would not show

FRANCE.TXT

The asterisk must be the last character in the name or extender of a filespec. For example, the filespec

TAX*.DOC

is valid, but the filespec

T*X.DOC

is not valid.

The question mark in a filespec stands for all single characters. For example, the filespec

MOM?.LET

specifies all files which begin with MOM, which have any character in the fourth position of the name, and which have the extender .LET. This filespec would display the files

MOM1.LET
MOM4.LET
MOMZ.LET

but would not show

JACK.LET
MOM33.LET
MOM1.DOC

The filespec

????????.???

is equivalent to

.

You can combine wildcards and characters. For example,

?ABC*.P?I
I?D?B.*

are both valid filespecs.

To change a filespec, edit it on the directory line, then update the directory window by clicking the left mouse button on the scroll bar.

Installing an Application

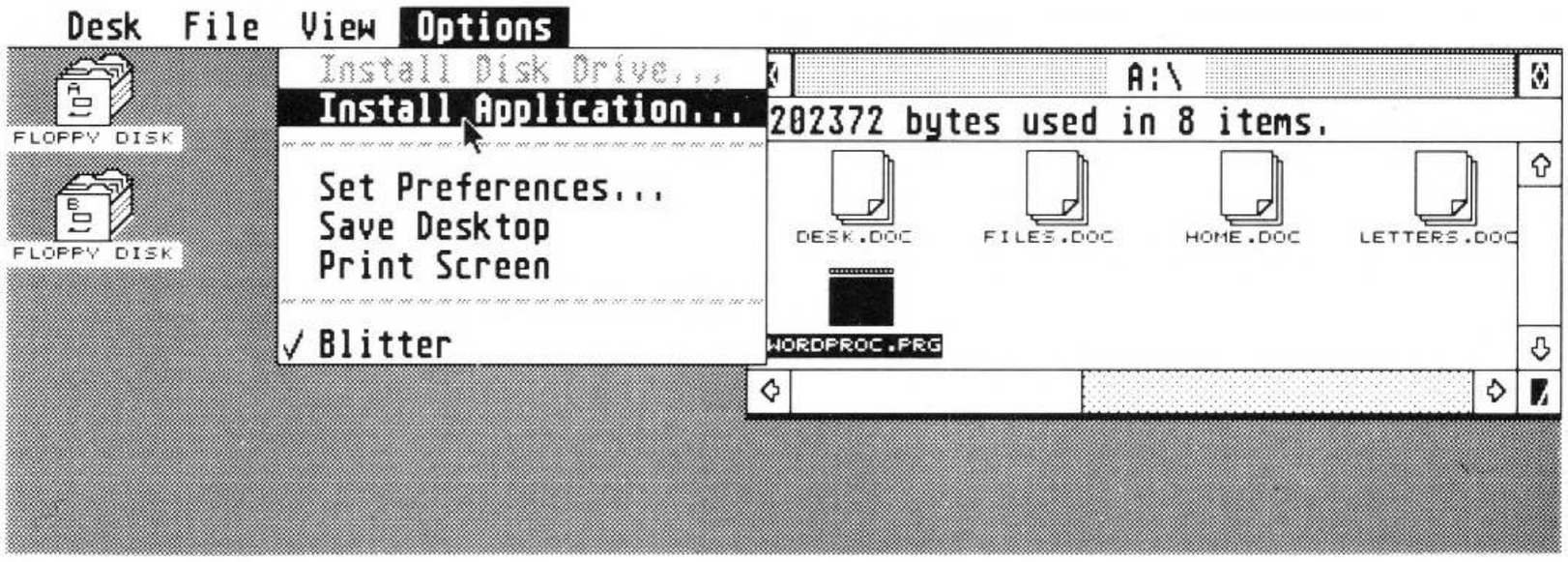
When you view a directory window on the GEM desktop, you may see both program and data files listed. In order to work with a data file, you usually must first open, or run, a program file. The GEM desktop has a feature, Install Application, that lets you open a data file, in its program environment, directly from the directory window.

You install an application by selecting the Install Application option in the Options menu. In the dialog box that appears, you must specify both an application name and a document type. You can also specify the application type, although the default, GEM, will most generally be used.

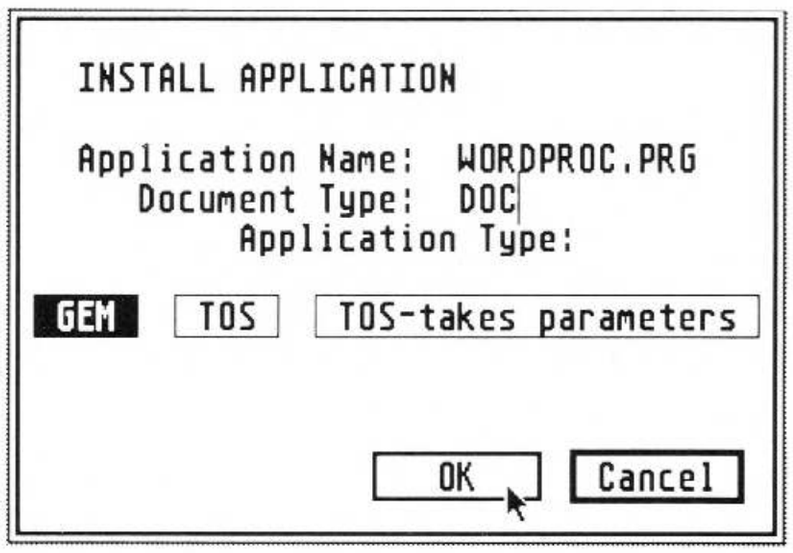
Specifying the Application Name and Document Type

The application name is the filename of the application you want to install. The document type is the common extender of the files that use that application. For this example, the application name WORDPROC.PRG and the document type .DOC are used. Replace them with your chosen application name and document type when you install an application. Follow the steps:

1. From an open directory window, select the program file WORDPROC.PRG.
2. Select Install Application from the Options menu.



3. The Install Application dialog box appears, listing WORDPROC.PRG as the application name. Specify the document type by typing "DOC."



4. Select the OK button (or select Cancel or press **[Return]** to stop the operation).

When you select the OK button, the application WORDPROC.PRG is installed with the document type .DOC. Now when you want to use one of the application's .DOC files, double-click on that .DOC file in the directory window. The ST Computer will run WORDPROC.PRG, then load the .DOC file you opened within the application environment. To preserve the installation of WORDPROC.PRG, select Save Desktop from the Options menu (see **Save Desktop** in **Chapter 4**).

In order to use the installed application, the application file must be present on the same disk as the data files (preferably in the same folder but never in a different folder) or on the disk in drive A.

Note: An application may not recognize that it has been installed. For specific information, consult the manual that describes your application.

Specifying the Application Type

Most programs you run from the GEM desktop will have the extender .PRG or .APP. Both of these extenders indicate a GEM application. However, some applications have the extender .TOS or .TTP. The extender .TOS indicates a TOS application; the extender .TTP indicates a TOS-takes parameters application.

The easiest way to use a .TOS or .TTP application is this: first, select the application; second, select Install Application from the Options menu; third, select the GEM dialog button; and finally, select the OK button. The application will now run as a GEM application, regardless of its extender.

APPENDIX A
MOUSE POINTER CONTROL QUICK REFERENCE

The mouse pointer can be moved around the GEM desktop by using either the mouse or certain keystroke combinations on the ST Computer keyboard. To use the keystroke combinations, hold down the first key listed and press the second key (or hold down the first two keys and press the third key).

The following table lists mouse functions and keystroke combinations. You can copy this page and post it near your ST Computer for quick reference.

Action	Mouse Function	Keystrokes
Move pointer.	Roll mouse in desired direction.	**[Alternate] [any Arrow key]** (moves pointer eight pixels in arrow direction). **[Alternate] [Shift] [any Arrow key]** (moves pointer one pixel in arrow direction).
Select item.	Position pointer on item, click left mouse button.	Position pointer on item, press **[Alternate] [Insert]**.
Select and open item.	Position pointer on item, double-click left mouse button.	Position pointer on item, hold down **[Alternate]**, quickly press **[Insert]** twice.
Drag item.	Select item, hold down left mouse button, roll mouse in desired direction.	Select item, press **[Alternate] [Insert] [any Arrow key]**.
Right mouse button functions.	Click right mouse button.	**[Alternate] [Clr Home]**.

APPENDIX B
TROUBLESHOOTING AND PREVENTIVE MAINTENANCE

Troubleshooting

If you run into problems hooking up or operating your ST Computer, don't panic. Chances are the difficulty is something you can take care of yourself. This appendix describes some possible problems and suggests simple solutions.

It Just Won't Work

If your ST Computer just won't work—for instance, the power light won't come on or the monitor stays dark—the remedy is usually a simple matter. Follow these steps:

1. Switch off all components in your system (the computer, external drives, the monitor, and any other peripherals). Now make sure all cable connections are correct and secure. Check to see that the power cables are connected properly and that the video cable is attached firmly to both the computer and the monitor. Check the integrity of your wall socket or power strip by plugging in a desk lamp.
2. Turn on all your components in the order described in **Chapter 1**. Be certain that the keyboard's front panel power light, the internal disk drive's busy light, and the monitor's power light all come on.
3. Check the brightness and contrast adjustments on your monitor. Make sure they are turned up.

No Desktop

If all the proper power lights come on, the monitor brightens, and the internal drive's busy light illuminates, but you cannot get to the GEM desktop, you may have a bad desk accessory on your boot disk, or the DESKTOP.INF file may be garbled.

With your computer switched off, place the original disk supplied with your ST Computer into the internal drive and turn on the power. If the problem is solved, make a new copy of the original disk and use that as your boot disk. Discard the disk that was causing the problem.

If the problem persists, remove the disk from the internal drive, then switch on your computer. (It may take up to 40 seconds to reach the desktop without a disk in drive A.) If the desktop appears, the problems you were experiencing may be related to a bad desk accessory on the original disk. Contact your ATARI representative for a new disk.

Software Problems

If you are having problems with an application, it may be that the software contains imperfections (bugs) or that the disk contains garbled data. Try switching your computer off for ten seconds, then on again (make sure you have a boot disk in drive A). Then rerun the application. If this helps, it may mean the application experienced a momentary failure.

If you still experience problems, try switching on the system using another boot disk and a backup copy of the software application. If this works, the problem is probably with the original disks you were using. If none of your disks work well, your computer or disk drive may need repair.

Bombs

Sometimes applications develop errors that are potentially damaging to the ST Computer's operating system. When an application is running and such an error occurs, TOS detects it and terminates the program. As a signal to you, TOS displays a row of bombs across the screen while it attempts to recover from the error.

To protect the computer's operating system, switch off your computer when you see bombs displayed. Wait ten seconds, then switch on your computer. If the problem recurs, discontinue using the program.

Slow Boot/Fast Boot

If you don't have a disk inserted in drive A when you first switch on the computer, the GEM desktop takes about 40 seconds to appear. This is called a slow boot. (Booting the computer means to begin its operation.)

On the other hand, you can fast boot by inserting a disk without desk accessories in drive A before switching on the system. This kind of boot is faster than booting with a disk containing desk accessories.

In both slow and fast boot, once the desktop appears you won't have any desk accessories available in the Desk menu.

Note: It's sometimes convenient to have more than one boot disk on hand. You can design your boot disks to contain no desktop accessories, selected desktop accessories, or various DESKTOP.INF files. This gives you several booting options, depending on the work you want to do.

The Mouse

With time, your mouse may begin to move slowly or sporadically. If this happens, make sure the mouse is plugged firmly into mouse/joystick port 0. If the problem persists, the mouse may need cleaning. Refer to the ST Mouse manual supplied with your mouse for instructions.

The Keyboard

Typing from the keyboard generally produces nothing on the GEM desktop except when you are naming items in a dialog box. However, you can use the keyboard to control the mouse on the desktop (see **Controlling the Mouse Pointer from the Keyboard** in **Chapter 2**).

The Monitors

If you have both an ATARI RGB Color Monitor and an ATARI Monochrome Monitor set up side by side, make sure only the one currently connected to your computer is switched on. With both monitors switched on, you may get interference patterns on screen. If you only have one monitor switched on and you get interference patterns, the trouble may be linked to some other peripheral. Try moving power supplies, printers, and modems as far away from the monitor as possible.

Preventive Maintenance

To ensure top performance from your ST Computer system, follow the guidelines in this section.

Caring for Your ST Computer

- Always have your system securely placed on a firm, level surface.
- Avoid dusty or greasy work areas.
- Keep all components away from extreme heat or moisture.
- Keep all components out of direct sunlight.
- Do not move the components unnecessarily.
- Always switch your computer off before inserting or removing a cartridge.
- Always switch your computer and peripherals off before connecting or disconnecting components.
- When you switch off the computer, wait at least ten seconds before you switch it on again.
- Keep liquids away from the components.
- Avoid smoking near your computer system.
- Always switch off your system before cleaning it. Clean the outside of the components with a soft, slightly damp, lint-free cloth only. Do not use cleansers, abrasives, or solvents.
- To ship or store your system, repack it in the original factory packing materials.

Caring for Your MicroFloppy Disks

- Do not switch the disk drive off while its busy light is illuminated.
- Do not insert or remove disks while the drive's busy light is on.
- Do not leave disks in the drive when the drive is off.
- Keep disks away from sources of magnetism (monitor, television, electric motor, telephone, etc.).
- Never leave disks in direct sunlight.
- Never touch or clean a disk's magnetic recording surface inside the plastic casing.

A Final Note

Your ST Computer system is designed for low maintenance and high reliability. But like anything electronic and mechanical, the equipment can break down.

If you experience problems that you think may be serious, take your ST Computer (or any other component) to an authorized ATARI Service Center. For the location of the nearest ATARI Service Center, contact your ATARI retailer (or see **Customer Support** at the end of this manual).

APPENDIX C
MEGA ST COMPUTER SPECIFICATIONS

Computer

Processor	MC68000, 32-bit internal, 16-bit external architecture; 24-bit address bus; 8 MHz clock frequency
Memory:	
MEGA ST1™	1 megabyte (1,048,576 bytes) of RAM; 192 kilobytes (196,608 bytes) of ROM
MEGA ST2™	2 megabytes (2,097,152 bytes) of RAM; 192 kilobytes (196,608 bytes) of ROM
MEGA ST4™	4 megabytes (4,194,304 bytes) of RAM; 192 kilobytes (196,608 bytes) of ROM
Graphics Resolution (selectable)	640 x 400 monochrome (high resolution) 640 x 200 x 4 colors (medium resolution) 320 x 200 x 16 colors (low resolution)
Color	Palette of 512 colors
Interfaces	Midi In and Midi Out Ports Monitor Port (RGB Analog; high-resolution monochrome; and audio) Parallel Interface Printer Port RS232 Serial Modem Port Floppy Disk Port (includes controller) Hard Disk Port (10 megabits per second DMA transfer rate) ROM Cartridge Port (128 kilobytes capacity) Mouse/Joystick and Joystick Ports Bus Extension for future expansion
Sound Generator	3 voices from 30 Hz to above audible range; built-in amplitude envelopes and noise generator
Keyboard	Detachable 94-key intelligent keyboard using its own microcontroller
Power Supply (built-in)	+5V @ 3A +12V @ 1A −12V @ 30mA
Power Consumption	95 Watts (maximum)

Ambient Temperature	41 to 113 °F (5 to 45 °C), operating or idle – 4 to 149 °F (– 20 to 65 °C), storage – 40 to 149 °F (– 40 to 65 °C), transport
Relative Humidity (noncondensing)	20 to 80 %, operating or idle; up to 95 %, storage or transport
Physical Characteristics	Height: 67 mm Width: 340 mm Depth: 400 mm Weight: 4.3 kg Internal power supply

Internal Disk Drive

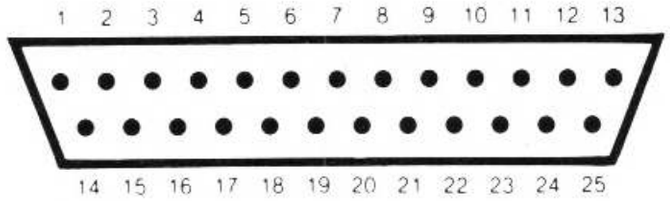
Track Density	135 tracks per inch
Storage Capacity	360 kilobytes per side (formatted MFM); 720 kilobytes total with double-sided
Storage Medium	3½-inch microfloppy disks, double-density, double- or single-sided, 135 tracks per inch
Head Positioning Mechanism	Stepper motor
Data Transfer Speed	250 kilobits per second

Keyboard

Physical Characteristics	Maximum height: 40 mm Width: 475 mm Depth: 190 mm Weight: 1.8 kg

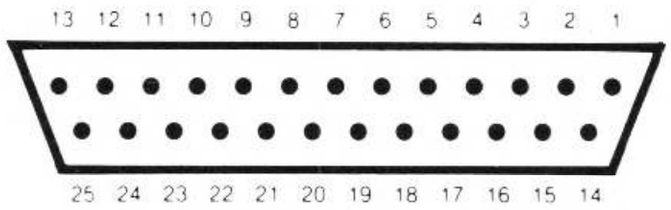
APPENDIX D
CONNECTOR PINOUT SPECIFICATIONS

Modem



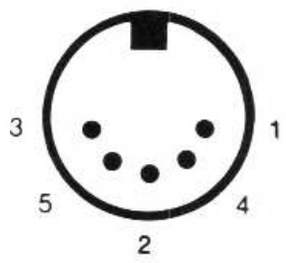
1 — Protective Ground
2 — Transmitted Data
3 — Received Data
4 — Request to Send
5 — Clear to Send
6 — Not Connected
7 — Signal Ground
8 — Data Carrier Repeat
9-19 — Not Connected
20 — Data Terminal Ready
21 — Not Connected
22 — Ring Indicator
23-25 — Not Connected

Printer



1 — STROBE Output
2 — Data 0
3 — Data 1
4 — Data 2
5 — Data 3
6 — Data 4
7 — Data 5
8 — Data 6
9 — Data 7
10 — Not Connected
11 — BUSY Input
12-17 — Not Connected
18-25 — Ground

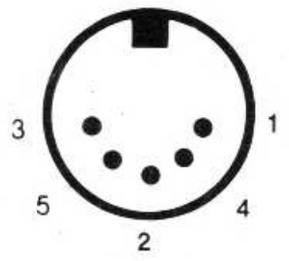
Midi Out



1 — THRU Transmit Data
2 — Shield Ground
3 — THRU Loop Return
4 — OUT Transmit Data
5 — OUT Loop Return

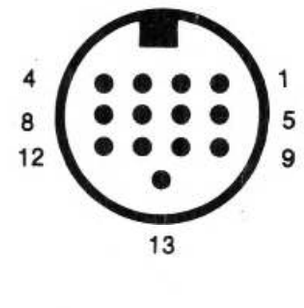
Note: All pinout diagrams are from the external port view.

Midi In



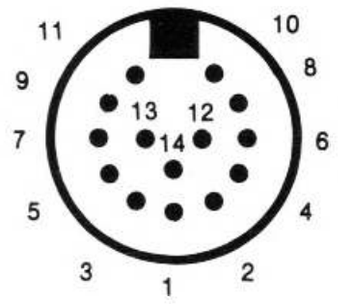
1 — Not Connected
2 — Not Connected
3 — Not Connected
4 — IN Receive Data
5 — IN Loop Return

Monitor



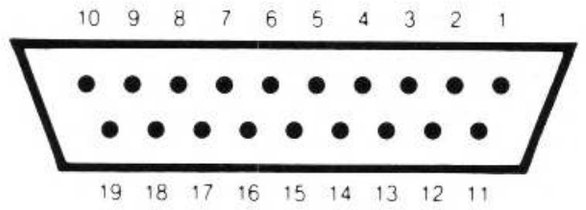
1 — Audio Out
2 — Composite Sync
3 — General Purpose Output
4 — Monochrome Detect
5 — Audio In
6 — Green
7 — Red
8 — Plus 12-Volt Pullup
9 — Horizontal Sync
10 — Blue
11 — Monochrome
12 — Vertical Sync
13 — Ground

Floppy Disk



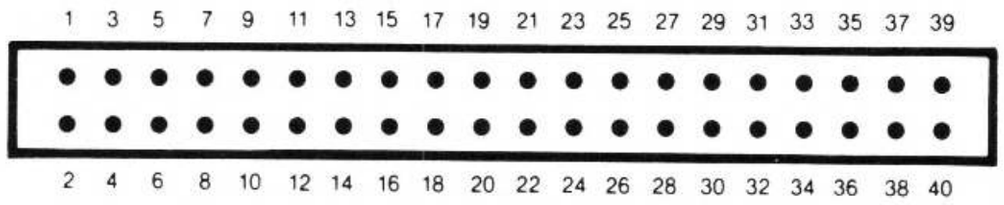
1 — Read Data
2 — Side 0 Select
3 — Logic Ground
4 — Index Pulse
5 — Drive 0 Select
6 — Drive 1 Select
7 — Logic Ground
8 — Motor On
9 — Direction In
10 — Step
11 — Write Data
12 — Write Gate
13 — Track 00
14 — Write Protect

Hard Disk



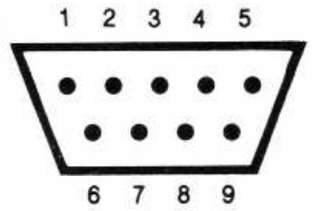
1 — Data 0
2 — Data 1
3 — Data 2
4 — Data 3
5 — Data 4
6 — Data 5
7 — Data 6
8 — Data 7
9 — Chip Select
10 — Interrupt Request
11 — Ground
12 — Reset
13 — Ground
14 — Acknowledge
15 — Ground
16 — A1
17 — Ground
18 — Read/Write
19 — Data Request

Cartridge



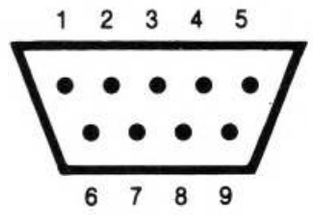
1 — +5 VDC
2 — +5 VDC
3 — Data 14
4 — Data 15
5 — Data 12
6 — Data 13
7 — Data 10
8 — Data 11
9 — Data 8
10 — Data 9
11 — Data 6
12 — Data 7
13 — Data 4
14 — Data 5
15 — Data 2
16 — Data 3
17 — Data 0
18 — Data 1
19 — Address 13
20 — Address 15
21 — Address 8
22 — Address 14
23 — Address 7
24 — Address 9
25 — Address 6
26 — Address 10
27 — Address 5
28 — Address 12
29 — Address 11
30 — Address 4
31 — ROM Select 3
32 — Address 3
33 — ROM Select 4
34 — Address 2
35 — Upper Data Strobe
36 — Address 1
37 — Lower Data Strobe
38-40 — Ground

Mouse / Joystick



1 — Up/XB
2 — Down/XA
3 — Left/YA
4 — Right/YB
5 — Not Connected
6 — Fire/Left Button
7 — + 5VDC
8 — Ground
9 — Joy1 Fire/Right Button

Joystick



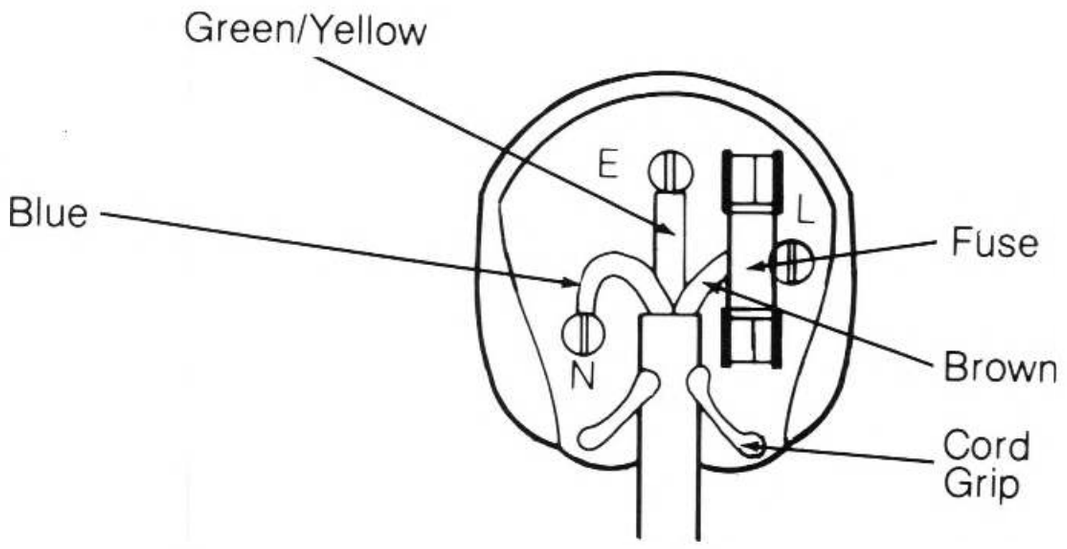
1 — Up
2 — Down
3 — Left
4 — Right
5 — Reserved
6 — Fire Button
7 — + 5VDC
8 — Ground
9 — Not Connected

APPENDIX E
CONNECTING A THREE-PIN PLUG TO THE MAINS LEAD

In the United Kingdom, the ST Computer operates on ~240V 50 Hz mains supply.

The wires in this mains lead are colored in accordance with the following code:

Green/Yellow	— Earth (E)
Blue	— Neutral (N)
Brown	— Live (L)



If the colors of the wires in the mains lead of this appliance do not correspond with the colored markings identifying the terminals in your plug, proceed as follows:

The wire colored GREEN/YELLOW must be connected to the terminal in the plug marked by the letter E or by the safety earth symbol ⏚ , or colored GREEN, or GREEN/YELLOW.

The wire colored BLUE must be connected to the terminal marked with the letter N or colored BLACK. The wire colored BROWN must be connected to the terminal marked with the letter L or colored RED.

If a 13-amp (BS1363) plug is used, a 3-amp fuse must be fitted, or if any other type of plug is used, a 3- or 5-amp fuse must be fitted either in the plug, adaptor, or on the distribution board.

GLOSSARY

.ACC The desk accessory extender.

Active Window The window on the GEM desktop that is currently available for desktop operations such as selecting, copying, and deleting items. The active window is the only window that you can scroll, update, move, or resize. Only one window at a time can be active on the desktop.

Alert Message A special type of dialog box designed to bring something to your attention. Alert messages are punctuated with stop signs, question marks, or exclamation points.

.APP An executable GEM program extender.

Application A program written to solve a specific problem or produce a specific result, and that can be executed by a computer. That is, the computer is "applied" to the task. (See **Program**.)

Back Up To make an archive copy of a disk or file. Backing up disks ensures that information is not lost when the disk is accidently damaged or erased.

Baud The standard unit measure of transmission speed of data through a modem, calculated in signaling elements per second.

Baud Rate The speed at which data are transmitted from one source to another, usually from one computer through a modem to another computer.

Bee Icon The icon displayed on screen whenever the ST Computer transfers or retrieves information from the disk drive. You cannot proceed to another action while the bee icon is on screen.

Bit The smallest unit of computer memory. Eight bits equal one byte. (See **Byte**.)

Blitter Chip A special co-processing circuit in the ST Computer. When enabled, it greatly improves the speed of text formatting and graphics operations.

Boot To begin the computer's operation. Booting is usually accomplished by switching on your system. (See **Coldstart** and **Warmstart**.)

Boot Disk The disk inserted in drive A when you switch on (boot) your ST Computer. The boot disk usually contains desk accessories and the DESKTOP.INF file.

Busy Light The light on a disk drive that indicates it is reading from or writing to a disk.

Byte A unit of computer memory. Each byte consists of eight bits, and is a unique character within the computer. For example, the letter "a" is stored in memory as one byte. (See **Bit** and **Kilobyte**.)

Cartridge A device usually containing files and data in ROM, that plugs into the cartridge slot on the left side of the ST Computer. Cartridge programs load instantly and do not use any of the computer's memory to load.

Click To quickly press and release a mouse button. A click on the left mouse button selects items on the desktop. (See **Double-Click** and **Shift-Click**.)

Clock/Calendar The file-dating feature built into the ST Computer and set from the Control Panel. The clock/calendar requires two size AA batteries.

Close Box The small box in the upper left corner of an active window, used to close the current directory.

Coldstart Booting the computer by switching on the power. A coldstart can be initiated while the computer is running by switching off the power for ten seconds, then switching it back on. A coldstart completely initializes the system. (Compare to **Warmstart**.)

Color Palette A feature in the Control Panel used to modify the colors available on the ST Computer. You must use an ATARI RGB Color Monitor or a composite monitor for the color palette to function fully.

Configure To customize the ST Computer system (environment) to your preferences; for instance, by setting colors, baud rate, confirmation, etc.

Control Panel A desk accessory used to alter and set many of the system's features and options, such as the color palette, mouse and keyboard response, and clock/calendar.

Copy To duplicate the information in a file, folder, or disk. To copy, drag the item from its original position on the desktop to another file, folder, or disk.

Current Directory The directory currently displayed in a window, as specified by the pathname in the move bar.

Cursor A marker that appears on the screen to indicate the position of the next action. Text cursors are usually either a blinking block or a solid vertical line. The mouse pointer is sometimes called a cursor.

Daisywheel Printer A type of printer that uses a rotating wheel to impact characters against a ribbon and onto the paper.

Data File A collection of information used by an application. Data file icons look like sheets of paper with one folded corner.

Default A value, option, or setting that the computer automatically selects until you direct it otherwise. For example, items on the GEM desktop are shown as icons, by default, until you change the option in the View menu.

Desk Accessory A special application that is loaded into memory from a disk in drive A when you switch on your computer. Desk accessories can be accessed either directly from the GEM desktop or from an application that uses the menu bar format. Desk accessory files are identified by the .ACC extender.

DESKTOP.INF The file that holds your customized desktop data and is created by selecting the Save Desktop option in the Options menu. DESKTOP.INF must be in the root directory of the disk in drive A (or on the hard disk, if one is connected) in order for the computer to read it during booting.

Destination Disk The disk that information is written to during a Diskcopy procedure.

Dialog Box An interactive message box that the computer uses to communicate with you. To exit a dialog box, you must acknowledge the message or select an option.

Directory A list of files. (See **Current Directory**, **Root Directory**, and **Subdirectory**.)

Disk Drive The primary storage device for your ST Computer. The computer uses the disk drive to read information from or write information to a disk.

Disk Identifier The letter in a pathname indicating which disk is in use. The letter is always followed by a colon (:) and a backslash (\). A disk identifier appears by itself in the move bar of a directory window when the root directory is displayed.

Diskcopy A procedure that duplicates data from one disk to another disk. To make a disk copy, drag the source disk icon on top of the destination disk icon. All information previously held on the destination disk is erased during Diskcopy.

DMA Port A high-speed peripheral port for attaching a hard disk drive or laser printer to the computer. DMA is an acronym for Direct Memory Access.

Document Something you create or modify using an application. Documents can contain text, graphics, or both. Also called a file. (See **File**.)

Document Type See **Extender**.

Dot Matrix Printer A type of printer that forms characters and graphics by printing small dots.

Double-Click Two quick clicks on a mouse button. A double-click on the left mouse button opens a file, disk, or folder.

Double-Sided Allowing use of both sides. A double-sided disk has both sides of its magnetic media certified as safe for storing data. A double-sided disk can store up to 726,016 bytes of data. A double-sided disk drive can read, write to, and format both single- and double-sided disks. (Compare to **Single-Sided**.)

Drag To move an item on the desktop. To drag, point the mouse pointer at an item, press and hold down the left mouse button, and move the mouse. While the item is being dragged, a ghost outline of it appears on the desktop.

Drop-Down Menu A list of options that appears below a menu heading when you touch the heading with the mouse pointer.

Editable Text Field A dashed line in a dialog box where you can type characters.

Expansion Connector An internal connector that permits installation of additional specialized hardware within your MEGA ST Computer. The signals provided include a direct extension of the microprocessor bus.

Extender The file type appended to the name of a file and separated from it with a period (.). An extender is optional and can have up to three characters (letters and numbers). Some common extenders are .ACC, .APP, .PRG, .TOS, .TTP.

File A collection of information that can be stored on a disk or in the computer's memory.

Filename The name of a file, made up of a mandatory name and an optional extender, separated by a period. (See **Extender** and **Name**.)

Filespec The search criterion used in an item selector. Filespec is short for file specifier.

Floppy Disk A magnetic media used to store information generated on a computer. The disk is made of material similar to audio tape. (See **MicroFloppy Disk**.)

Folder A subdirectory for storing files and other folders. A folder appears as a folder icon (manila folder) on the desktop, or with a folder symbol (small box) next to its name when showing as text.

Format To set the circular patterns on a floppy disk that enable it to store information. Formatting erases all information previously stored on the disk.

Full Box The small box in the upper right corner of a window, used to change the size of a window alternately from smaller than full-screen to full-screen.

Function Keys The keys **[F1]** through **[F10]** along the top edge of the ST Computer keyboard. Many applications use these keys to perform special actions.

GEM The portion of TOS that creates and manages all the windows, icons, menus, and graphics features of the ST Computer. GEM is an acronym for Graphics Environment Manager.

GEM Desktop The main screen for the ST Computer. It includes (but is not limited to) the menu bar, two disk icons, and the trash icon.

Ghost Outline An outline of an icon, filename, or window used to show the current position of the item as it is dragged to a new location on the desktop.

Hard Disk A device used to store data on a magnetic surface. The disk itself is permanent (not removable). A hard disk drive can store far more data than a floppy disk drive, and can read and write information many times faster.

Hardware The actual physical apparatus of your computer system. (Compare to **Software**.)

High Resolution One of three video display modes available with the ST Computer. In high-resolution mode, the computer's display consists of 640 dots horizontally by 400 dots vertically, in black and white. To use high-resolution mode, you must have an ATARI High-Resolution Monochrome Monitor. (Compare to **Low Resolution** and **Medium Resolution**.)

Icon A picture on the desktop that represents a disk, file, folder, or procedure. The disk icon looks like a filing cabinet; the data file icon looks like sheets of paper with one corner folded; the program file icon looks like a small desktop; the folder icon looks like a manila folder; and the trash icon looks like a trash can.

Information Line The line at the top of an active directory window immediately below the move bar, telling how many bytes are used by the items listed in the directory, and how many items there are.

Initialize To set the computer to its starting configuration.

Input/Output (I/O) The communication process that takes place between the ST Computer and a peripheral device such as a disk drive or printer. Input is information the computer receives (that is, it is sent in); output is information the computer transmits (that is, it is sent out).

Interface An electronic connection that allows communication between the computer and its peripherals.

Item Selector An editable dialog box specialized for loading and saving files while using an application; sometimes called a file selector.

Joystick A device used to control the action of a computer game on screen.

Kilobyte 1,024 (2^{10}) bytes of memory. (See **Byte**.)

Laser Printer A high-speed, high-resolution printer that electrophotographically produces an image on paper.

Low Resolution One of three video display modes available with the ST Computer. In low-resolution mode, the computer's display consists of 320 dots horizontally by 200 dots vertically. In this mode and when connected to an ATARI RGB Color Monitor, the computer can display up to 16 colors at a time from the total palette of 512 colors. (Compare to **High Resolution** and **Medium Resolution**.)

Medium Resolution One of three video display modes available with the ST Computer. In medium-resolution mode, the computer's display consists of 640 dots horizontally by 200 dots vertically. In this mode and when connected to an ATARI RGB Color Monitor, the computer can display up to four colors at a time from the total palette of 512 colors. (Compare to **High Resolution** and **Low Resolution**.)

Megabyte 1,024 (2^{10}) kilobytes of memory. (See **Kilobyte**.)

Memory The electronic circuits that the ST Computer uses to store data and programs. There are two kinds of computer memory: RAM (Random Access Memory) and ROM (Read Only Memory). RAM loses its data if the power is turned off; ROM retains its information whether the computer has power or not.

Menu Bar A bar at the top of the GEM desktop. When you first start up the ST Computer system, the headings on the menu bar are Desk, File, View, and Options. Other application programs may show different headings in the menu bar.

MicroFloppy Disk A 3½-inch floppy disk enclosed in a hard plastic casing; the main type of disk used with the ST Computer. A single-sided microfloppy disk can store up to 357,376 bytes of information; a double-sided microfloppy disk can store up to 726,016 bytes of information. (See **Floppy Disk**.)

MIDI A standard interface designed to connect a computer to a number of electronic musical devices. MIDI is an acronym for Musical Instrument Digital Interface.

Modem A device that enables you to connect your computer directly to the telephone lines in order to establish a communication link with other computers and online information networks. Modem is a contraction of MOdulator/DEModulator.

Monitor See **Video Display**.

Mouse A small, hand-manipulated device connected to your ST Computer that controls the movement of a pointer on the desktop. As you slide the mouse across a table or desk, the small roller on the bottom rolls back and forth to track the movements. The mouse has two buttons. The left button is used for most desktop operations. The right button is used with some applications programs.

Mouse Pointer The small image on the screen that moves when you move the mouse. The mouse pointer is usually an arrow, but it may change to other shapes such as a bee icon during certain procedures.

Move Bar The bar at the top of an active window. Use the move bar to drag a window to a new location on the desktop.

Name The identifying name of a file. A name is mandatory and can have up to eight characters (letters and numbers).

Option An item in a drop-down menu that enables you to manipulate the desktop and the elements on it.

Parallel Interface An industry-standard interface for printer connections. The parallel interface port on the back of the ST Computer is labeled "Printer."

Parameter Data given to a program that controls its operation.

Pathname The list of items that specifies the path through the subdirectories on the disk to the current directory. A pathname consists of a disk identifier and a string of folders separated by backslashes (for example: A: \ document \ text \ ). It may also contain a filespec.

Peripheral Any external device, such as a disk drive, monitor, or printer, that you connect to your computer.

Pixel A dot on the ST Computer's video display. Pixels are arranged in a grid, and set to either 320 x 200, 640 x 200, or 640 x 400 dots per grid depending on your screen resolution. Pixel is short for picture element.

Pointer See **Mouse Pointer**.

.PRG A GEM application file extender.

Program A detailed and explicit set of instructions for accomplishing some purpose, expressed in a language that can be read by a computer. (Compare to **Application**.)

Program File A file that contains an applications program. The program file icon looks like a small desktop. Double-click the left mouse button on a program file to execute the application.

Prompt Any symbol or message on screen indicating that the computer is awaiting input from the user.

RAM The part of the computer's memory that is used to write data to and read data from a disk. When you work with your computer, the information displayed on the monitor screen is in RAM. Information stored in RAM is lost when you switch off the computer. RAM is an acronym for Random Access Memory.

RAM Disk A part of RAM that is segmented to act as a disk drive. RAM disk drives are much faster than floppy or hard disk drives, but all information in a RAM disk is lost when the computer is turned off.

RGB The color signals that the ST Computer produces to create its special color display. The combinations of eight different intensities of red, green, and blue enable you to create 512 colors with the ST Computer. RGB stands for Red, Green, Blue.

ROM The part of the computer's memory containing TOS, GEM, and the GEM desktop. ROM never changes, and retains its information with or without power to the computer. ROM is an acronym for Read Only Memory.

Root Directory The first directory you encounter when you open a disk drive. The root directory is the directory outside of all folders and is specified by the disk identifier alone (such as A: \ ).

RS232 An industry-standard connection for peripherals. The RS232 port on the back of the ST Computer is labeled "Modem." This port is sometimes referred to as the serial port.

Scroll To move the directory in a window left, right, up, or down.

Scroll Bar One of two bars that border an active window on the bottom and right edges. The scroll bars contain the scroll arrows and are shaded if part of the window's contents cannot be seen. The larger the shaded portion, the greater the percentage of the window's contents that is hidden from view.

Sector A section of a track on a hard or floppy disk. Sectors are usually 128, 256, 512, or 1024 bytes long. On a microfloppy disk, the sectors are 512 bytes long. (See **Track**.)

Selecting Clicking the left mouse button on an icon, file, or menu option. Selected icons and files highlight to indicate the selection.

Serial One bit at a time. (See **RS232**.)

Shift-Click Clicking with a mouse button while holding down the **[Shift]** key.

Single-Sided Allowing use of one side only. A single-sided disk has only one side of its magnetic media certified as safe for storing data. A single-sided disk can store up to 357,376 bytes of data. A single-sided disk drive can read, write to, and format only single-sided disks, or double-sided disks that have been formatted as single-sided. (Compare to **Double-Sided**.)

Size Box A small box at the lower right corner of a window, used to change the window's size or shape.

Sizing The process of changing the size or shape of a window.

Software The programs and applications you run on your computer. (Compare to **Hardware**.)

Source Disk The disk that information is written from during a Diskcopy procedure.

Subdirectory A directory inside a directory; often called a folder. (See **Root Directory**.)

.TOS The TOS application file extender.

TOS The operating system for the ST Computer. TOS controls how the computer operates the GEM desktop, the mouse, and any peripherals connected to the computer. TOS is an acronym for The Operating System.

Track One of the circular paths on a disk that contain the data written on the disk. Each track is made up of smaller sections called sectors. (See **Sector**.)

Trash Can The GEM desktop icon used to delete files or folders from the desktop. Once a file or folder is deleted using the trash icon, it's gone forever.

.TTP The TOS-takes parameters application file extender.

Video Display A device containing a video screen that you and your computer use to communicate.

VT52 (Terminal) Emulator A desk accessory that acts as a communications program. When executed, it turns the ST Computer into a terminal linked to another computer.

Warmstart Rebooting the computer by pressing the reset button on the back of the computer. A warmstart only partially initializes the system. (Compare to **Coldstart**.)

Wildcard A question mark (?) or asterisk (*) character used in a filespec to specify the search criterion. "?" matches any one character; "*" matches all characters to the end of the first name or extender.

Window The work area that the ST Computer uses to display files and folders or to run programs. The desktop allows up to four directory windows open at a time.

Write-Protect To mechanically prevent a disk from being formatted, erased, or written to. To write-protect a disk, move the write-protect tab so you can see through the notch.

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